



Salt and Wind Tolerance of Landscape Plants for Hawai'i

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Landscaping near the ocean in Hawai'i can be challenging and frustrating because of sea salt and wind. Salt can be deposited on leaves and in soils by wind carrying ocean spray, by high surf, or by irrigating with brackish water. Also, high water tables in some coastal areas result in severe soil salinity.

Landscape professionals, property managers, and homeowners are concerned with the survival, growth, and appearance of landscape plants. Damage to plants resulting from high levels of salt usually appears as a burning of the margins or tips of the leaves, followed by defoliation and death of sensitive species. The leaves may sometimes be bluish, whitish, or off color, and the plant may wilt easily even though soil water is adequate.

Excessive salt levels most often damage plants by causing dehydration. Because of the salt, water moves out of the roots or leaves through a process called osmosis. In addition, plants may accumulate sodium or chloride ions, and these can eventually reach toxic levels. Research has shown that plant tolerance of salt results from one or more of the following mechanisms, whereby the plant either

- prevents the absorption of sodium or chloride ions by its roots or leaves,
- tolerates the accumulation of sodium or chloride ions in its tissues, or
- tolerates the osmotic stress caused by salt in the soil or on its leaves.

*Patti Clifford is a weed risk assessment specialist with the Hawai'i Invasive Species Council. She provided the weed risk category designations for this revision. She also updated some of the botanical names that had been changed since this publication was originally issued in 1996.

The tolerance or response of plants to salt can vary with cultivars, the plant age and growth stage, environmental conditions, cultural practices, irrigation management, soil fertility, and the intensity of other stresses on the plant. Also, some plants may be tolerant of salt in the soil but intolerant of salt deposited on their leaves, or vice versa.

Wind can be as injurious to plants as salt. When the two are combined near the ocean, plants suffer even greater damage.

The following tables were compiled by the authors and reflect both research findings and years of observation of plants in Hawai'i's landscapes. The tables should help landscape professionals and homeowners select suitable plant materials for coastal sites.

The tables list the botanical name, common name, and height of many common (and some uncommon) landscape plants in Hawai'i. Each plant category is divided into zones according to salt tolerance.

Zone 1 plants are highly salt and wind tolerant and can be used in exposed locations, such as areas near the beach receiving direct winds from the ocean. These plants are tolerant of soil salinity and wind-borne salt. During severe storms and hurricanes, even plants listed in Zone 1 may experience moderate to severe salt and wind injury.

Zone 2 plants are moderately tolerant of soil salinity and usually tolerate light salt spray but should not be used in exposed locations. They may be sensitive to wind or to medium or heavy salt spray. These plants do best when protected by buildings, fences, or plantings of Zone 1 species. Zone 2 plants and more sensitive plants may be damaged if seaside wind buffers are removed to

enhance an ocean view. Zone 2 plants would likely be suitable for landscapes irrigated with brackish water.

Weed risk categories

Invasive plant species pose environmental risks and should be avoided. The Hawai'i Noxious Weed List, the Hawai'i Alien Species Coordinator list, and the Hawai'i-Pacific Weed Risk Assessment (HP-WRA) websites are sources of information about species invasiveness. Details about HP-WRA assessment can be found at www.hear.org/wra.

Within the context of the HP-WRA, *invasive* means spreading beyond the intended area of cultivation and having significant ecological or economic impacts as a weed. Species listed that are designated "L" have been scored as low risk (unlikely to become invasive in Hawai'i). "U" indicates that the plant has not yet been assessed; the Hawai'i Invasive Species Council will schedule species for assessment upon request (contact hpwra@yahoo.com). Species designated "H" are high risk; they have been assessed as either likely to be or documented as invasive in Hawai'i. However, the website www.botany.hawaii.edu/faculty/daehler/wra contains the following clarification about this assessment:

The "H" designation is an indication of risk in at least some environments, but it does not mean "do not plant." Some plants with the "H" designation have high economic value and suitable alternatives may not be available. Examples include St. Augustine grass (*Stenotaphrum secundatum*) and seashore paspalum (*Paspalum vaginatum*), both of which are widely planted turf grasses. Further planting of these species is unlikely to cause problems, although you might want to exercise caution if planting adjacent to a natural wetland (seashore paspalum) or adjacent to a coastal nature reserve (St. Augustine grass). While you may choose to request that a contractor or landscape architect minimize the use of species with "H" ratings, there may be some circumstances and environments where a species with an "H" rating poses little risk while also providing great benefits. Therefore, it is not appropriate to interpret the "H" rating strictly to mean, "do not plant."

Key to the table

Left-hand column

n = Native or indigenous Hawaiian plant
p = Polynesian introduced or "heritage" plant

Weed risk assessment

L = Not currently recognized as invasive in Hawai'i, and not likely to have major ecological or economic impacts on other Pacific Islands based on the HP-WRA screening process.

H = High risk species that are either pests or likely to become pests.

U = Species not yet evaluated.

E = "Evaluate"; some species have gone through an initial assessment, but not enough information is available yet to confirm a designation.

Blank = a native species.

Note

Botanical names have been updated in this revised publication based on Staples and Herbst (2005), the Bishop Museum Online Cultivated Plant List, the USDA Germplasm Resources Information Network, and the International Plant Names Index.

References

- Daehler, C. Weed risk assessments for Hawaii and Pacific Islands. <http://www.botany.hawaii.edu/faculty/daehler/wra>.
- Division of Plant Industry, Hawai'i Department of Agriculture. 1992. List of plant species designated as noxious weeds for eradication or control purposes by the Hawaii Department of Agriculture. Chapter 68. <http://www.hawaii.edu/ehso/bio/weedlist.pdf>.
- Hawai'i State Alien Species Coordinator. 2001. Hawai'i's most invasive horticultural plants. Division of Forestry and Wildlife, Hawai'i Department of Land and Natural Resources. <http://www.state.hi.us/dlnr/dofaw/hortweeds/specieslist.htm>.
- Staples, G.W., and D.R. Herbst. 2005. A tropical garden flora: Plants cultivated in the Hawaiian Islands and other tropical places. Bishop Museum Press, Honolulu.

Botanical name	Common name	Height (inches)	HP-WRA
Groundcovers — Zone 1			
<i>Aloe</i> spp.	aloe	18	
<i>Argusia gnaphalodes</i>	sea lavender	60	
<i>Asparagus setaceus</i>	asparagus fern	variable	H
<i>Asparagus densiflorus</i> 'Sprengeri'	Sprenger asparagus fern	variable	H
n <i>Capparis sandwichiana</i>	maiapilo, pua pilo	48	
<i>Carissa macrocarpa</i>	dwarf Natal plum	24	L
n <i>Chamaesyce degeneri</i>	beach spurge, 'akoko, koko	5	
<i>Epipremnum pinnatum</i>	pothos	8	H
<i>Glottiphyllum depressum</i>	fig marigold	6	N
n <i>Heliotropium anomalum</i> var. <i>argenteum</i>	hinahina kū kahakai	6	
n <i>Ipomoea pes-caprae</i> subsp. <i>Brasilensis</i>	beach morning glory, pōhuehue	6	
n <i>Jacquemontia ovalifolia</i> subsp. <i>sandwicensis</i>	pā'ūoHi'iaka	4	
n <i>Lipochaeta integrifolia</i>	nehe	12	
n <i>Lycium sandwicense</i>	'ōhelo kai, 'ae 'ae	6	U
n <i>Nama sandwicense</i>	Hawaiian nama	4	H
<i>Phyla nodiflora</i>	lippia	2	U
<i>Portulaca</i> spp.	purslane	6	
n <i>Portulaca lutea</i>	'ihi, native yellow portulaca	36	
n <i>Sesbania tomentosa</i>	'ohai	12	
n <i>Sesuvium portulacastrum</i>	'ākulikuli	12	
<i>Sphagneticola trilobata</i>	wedelia	12	U
n <i>Sporobolus virginicus</i>	aki aki	12	
n <i>Vitex rotundifolia</i>	beach vitex, pōhinahina	24	
Groundcovers — Zone 2			
<i>Alternanthera amoena</i>	joy weed	12	U
<i>Asystasia gangetica</i>	coromandel	12	H
<i>Bidens mauriensis</i>	ko'oko'olau	36	U
<i>Carpobrotus edulis</i>	hottentot fig	6	H
<i>Ficus pumila</i>	creeping fig	2–12	L
<i>Gaillardia pulchella</i>	blanket flower	18	U
<i>Helianthus debilis</i>	beach sunflower	18	U
<i>Hemerocallis</i> spp.	daylily	24	U
n <i>Jacquemontia ovalifolia</i> subsp. <i>sandwicensis</i>	pā'ūoHi'iaka	48	
<i>Kalanchoe</i> spp.	kalanchoe	12–24	L, E
<i>Lantana montevidensis</i>	weeping lantana	18–24	H
<i>Liriope spicata</i>	lilyturf	8	H
<i>Lonicera japonica</i>	Japanese honeysuckle	variable	H
<i>Ophiopogon japonicus</i>	mondo grass	6	L
<i>Pseudogynoxys chenopodioides</i>	Mexican flame vine	variable	U

	Botanical name	Common name	Height (inches)	HP-WRA
	<i>Sansevieria trifasciata</i>	snake plant	30	H
n	<i>Sida fallax</i>	'ilima papa	6	
	<i>Tecoma capensis</i>	Cape honeysuckle	72	U
	<i>Trachelospermum jasminoides</i>	Confederate jasmine	variable	L
	<i>Tradescantia pallida</i>	purple queen, purple-heart	24	U
	<i>Tradescantia pendula</i>	wandering jew	6	U
	<i>Tradescantia spathacea</i>	oyster plant	12	U
n	<i>Vitex rotundifolia</i>	beach vitex, pōhinahina	4	U
n	<i>Wikstroemia uva-ursi</i>	'akia	18	
	<i>Zamia pumila</i>	coontie	24	U

Palms — Zone 1

These palms will survive in sites exposed to salt and wind, but their appearance is much better when they are provided with some wind protection. Plant palms in groups or combine them with extremely salt-tolerant plants for protection.

	<i>Coccothrinax barbadensis</i>	silver palm	20	U
p	<i>Cocos nucifera</i>	coconut	80	L
	<i>Dictyosperma album</i>	princess palm	30	L
	<i>Hyophorbe lagenicaulis</i>	bottle palm	15	L
	<i>Phoenix dactylifera</i>	date palm	50	U
	<i>Phoenix reclinata</i>	Senegal date palm	25	U
n	<i>Pritchardia affinis</i>	Kona loulu	25	
	<i>Pritchardia pacifica</i>	Fiji Island fan palm	25	L
	<i>Pritchardia thurstonii</i>	Masai palm	25	L
	<i>Sabal palmetto</i>	cabbage palmetto	30	U
	<i>Serenoa repens</i>	saw palmetto	8	U
	<i>Thrinax microcarpa</i>	brittle thatch palm	12	U
	<i>Thrinax radiata</i>	thatch palm	20	L
	<i>Washingtonia robusta</i>	washingtonia palm	80	H

Palms — Zone 2

Many recent palm introductions are adapted to Zone 2.

	<i>Acoelorrhaphe wrightii</i>	paurotis palm	20	E
	<i>Acrocomia armentalis</i>	acrocomia	40	U
	<i>Butia capitata</i>	pindo palm, butia	30	U
	<i>Chamaerops humilis</i>	European fan palm	10	U
	<i>Dypsis lutescens</i>	areca palm, butterfly palm	30	U
	<i>Elaeis guineensis</i>	African oil palm	60	H
	<i>Hyphaene thebaica</i>	gingerbread palm	25	U
	<i>Latania loddigesii</i>	blue latan palm	40	L
	<i>Livistona chinensis</i>	Chinese fan palm	30	E
	<i>Phoenix canariensis</i>	Canary Island date palm	30	U
n	<i>Pritchardia</i> spp. (~30 species)	loulu palm	30	

	Botanical name	Common name	Height (inches)	HP-WRA
	<i>Ptychosperma elegans</i>	solitaire palm	20	E
	<i>Roystonea regia</i>	royal palm	80	U
	<i>Veitchia merrillii</i>	Manila palm	15	L
Shrubs — Zone 1				
	<i>Agave americana</i>	century plant	4–8	U
	<i>Ardisia escallonioides</i>	marlberry	10	U
	<i>Batis maritima</i>	‘ākulikuli kai, pickleweed, salt wort	3	U
n	<i>Capparis sandwichiana</i>	maiapilo	4	
	<i>Carissa macrocarpa</i> (dwarf cvs. available)	Natal plum	10	L
	<i>Chrysobalamus icaco</i>	coco plum	10	U
	<i>Cortaderia selloana</i>	pampas	8	H
	<i>Gardenia taitensis</i>	tiare gardenia	15	L
	<i>Morella cerifera</i>	wax myrtle	12	U
	<i>Nerium oleander</i>	oleander, dwarf oleander	15, 3	L
n	<i>Osteomeles anthyllidifolia</i>	‘ulei	2	
	<i>Pittosporum tobira</i> ‘Variegata’	variegated Japanese pittosporum	5	U
	<i>Pittosporum tobira</i> ‘Wheeleri’	Wheeler’s dwarf pittosporum	4	U
	<i>Russelia equisetiformis</i>	coral plant	4	L
n	<i>Scaevola taccada</i>	naupaka	10	
n	<i>Sesbania tomentosa</i>	‘ohai	2	
	<i>Vitex agnus-castus</i>	chaste tree	15	U
	<i>Yucca aloifolia</i>	Spanish bayonet	15	U
	<i>Yucca elephantipes</i>	spineless yucca	15	U
	<i>Yucca flaccida</i>	Adam’s needle	3	U
Shrubs — Zone 2				
	<i>Acacia farnesiana</i>	acacia	10	H
	<i>Acalypha wilkesiana</i>	acalypha	8	L
	<i>Acca sellowiana</i>	pineapple guava	12	U
	<i>Alpinia nutans</i>	shell ginger	6	U
	<i>Caesalpinia pulcherrima</i>	dwarf poinciana, ‘ohai ali‘i	9	L
	<i>Callistemon citrinus</i>	red bottlebrush	20	L
	<i>Cestrum nocturnum</i>	night-blooming jasmine	8	H
	<i>Crassula ovata</i>	jade plant	3	U
	<i>Cuphea hyssopifolia</i>	cuphea	2	L
	<i>Cycas circinalis</i>	queen sago palm	15	U
	<i>Cycas revoluta</i>	sago palm	10	L
	<i>Dracaena arborea</i>	tree dracaena	10	U
	<i>Dracaena draco</i>	dragon tree	15	L
	<i>Dracaena fragrans</i>	dracaena fragrans	20	L
	<i>Dracaena marginata</i>	dracaena marginata	15	L
	<i>Duranta erecta</i>	golden-dewdrop	10	U

Botanical name	Common name	Height (inches)	HP-WRA
<i>Eranthemum pulchellum</i>	blue sage	4	L
<i>Euphorbia milii</i>	crown-of-thorns	2–5	L
<i>Ficus carica</i>	common fig, piku	15	L
<i>Ficus microcarpa</i>	wax fig	12	H
<i>Fortunella japonica</i>	kumquat	10	U
<i>Hamelia patens</i>	scarlet bush	10	H
<i>Holmskioldia sanguinea</i>	Chinese hat, cup-and-saucer plant	15	L
<i>Homalocladium platycladum</i>	ribbon bush	5	U
<i>Ilex vomitoria</i> (and cultivars)	yaupon holly, dwarf yaupon holly	12, 4	U
<i>Ixora coccinea</i> (and cultivars)	ixora	2–10	E
<i>Lantana camara</i>	lantana	6	H
<i>Leucophyllum frutescens</i>	Texas sage	10	U
<i>Ligustrum japonicum</i>	Japanese privet	12	E
<i>Malpighia coccigera</i>	Singapore holly	3	U
<i>Malvaviscus arboreus</i>	Turk's cap	12	U
<i>Nageia nagi</i>	broadleaf podocarpus	15–20	U
n <i>Osteomeles anthyllidifolia</i>	'ūlei	2	
<i>Pedilanthus tithymaloides</i>	devil's backbone	5	U
<i>Pentas lanceolata</i>	pentas	4	U
<i>Phormium tenax</i>	New Zealand flax	6	H
<i>Plumbago auriculata</i>	plumbago	5	U
<i>Podocarpus macrophyllus</i>	podocarpus	15	L
<i>Pseuderanthemum carruthersii</i> var. <i>atropurpureum</i>	pseuderanthemum	5	U
<i>Rhapiolepis indica</i>	Indian hawthorn	6	L
<i>Russelia equisetiformis</i>	fountain plant	6	L
<i>Sesbania punicea</i>	rattle box, false poinciana	6	H
<i>Severinia buxifolia</i>	box thorn	6	U
<i>Strelitzia reginae</i>	bird-of-paradise	4	L
<i>Suriana maritima</i>	baycedar	10	U
<i>Synadenium grantii</i>	African milk bush	10	U
<i>Tetrapanax papyrifer</i>	rice paper plant	15	U
<i>Thevetia peruviana</i>	be-still tree, lucky nut	15	H
<i>Triphasia trifolia</i>	lime berry	12	U
<i>Viburnum odoratissimum</i>	sweet viburnum	15	U
<i>Viburnum suspensum</i>	sandankaw viburnum	10	U
<i>Vitex rotundifolia</i>	beach vitex, pōhinahina	4	U

Trees — Zone 1

<i>Araucaria columnaris</i>	Cook pine	60	L
<i>Araucaria heterophylla</i>	Norfolk Island pine	80	L
<i>Barringtonia asiatica</i>	hutu	60	L
<i>Bucida buceras</i>	geometry tree, black olive	30	L
<i>Bursera simarubra</i>	gumbo limbo	30	U
<i>Callistemon citrinus</i>	bottlebrush	20	U

	Botanical name	Common name	Height (inches)	HP-WRA
p	<i>Calophyllum inophyllum</i>	kamani	40	
	<i>Casuarina equisetifolia</i>	Australian pine, common ironwood	60–70	H
	<i>Clusia rosea</i>	autograph tree, pitch apple	20	E
	<i>Coccoloba diversifolia</i>	pigeon plum	30	U
	<i>Coccoloba uvifera</i>	sea grape	20	L
	<i>Conocarpus erectus</i>	buttonwood, silver buttonwood	30	L
	<i>Cordia sebestena</i>	geiger tree, kou haole	25–30	L
p	<i>Cordia subcordata</i>	kou	20	
	<i>Euphorbia tirucalli</i>	pencil tree	10–15	U
	<i>Ficus macrophylla</i>	Morton Bay fig	50	E
	<i>Guaiacum sanctum</i>	lignum vitae	15	U
	<i>Heritiera littoralis</i>	looking glass tree	30	L
p	<i>Hibiscus tiliaceus</i>	hau	30	
	<i>Kigelia africana</i>	sausage tree	35	U
	<i>Manilkara roxburghiana</i>	coastal red milkwood	35	U
n	<i>Myoporum sandwicense</i>	naio	15–20	
	<i>Morinda citrifolia</i>	noni, Indian mulberry	10	H
	<i>Myrica cerifera</i>	wax myrtle	20	U
	<i>Noronhia emarginata</i>	Madagascar olive	25	E
	<i>Ochrosia elliptica</i>	ochrosia	25	U
n	<i>Pandanus odoratissimus</i>	pandanus, hala	15	
	<i>Pandanus tectorius</i>	variegated pandanus	15	U
	<i>Pandanus utilis</i> (and spp.)	screw pine	25	U
	<i>Rhizophora mangle</i>	red mangrove	20–40	U
	<i>Swietenia mahagoni</i>	mahogany	40	L
	<i>Tamarix aphylla</i>	tamarisk	30+	H
	<i>Terminalia catappa</i>	tropical almond	60	L
p	<i>Thespesia populnea</i>	milo	30	U
	<i>Tournefortia argentea</i>	beach heliotrope, tahinu	12–15	L

Trees — Zone 2

p	<i>Aleurites moluccana</i>	kukui, candlenut	40	H
	<i>Allocasuarina verticillata</i>	ironwood (longleaf)	40	U
	<i>Araucaria bidwillii</i>	bunya-bunya	60	U
	<i>Bischofia javanica</i>	bischofia	40	H
	<i>Brachychiton acerifolius</i>	Australian flame tree	40	L
	<i>Brugmansia x candida</i>	angel's trumpet	15	U
	<i>Callistemon citrinus</i>	red bottlebrush	20	L
	<i>Casimiroa edulis</i>	white sapote	30	U
	<i>Casuarina glauca</i>	grey ironwood	40	H
	<i>Chrysophyllum cainito</i>	star apple	30	U
	<i>Chrysophyllum oliviforme</i>	satin leaf	30	H
	<i>Cinnamomum camphora</i>	camphor tree	50	H
	<i>Cordyline australis</i>	giant dracaena	40	U
	<i>Crescentia cujete</i>	calabash tree	30	L

Botanical name	Common name	Height (inches)	HP-WRA
<i>Dalbergia sissoo</i>	sissoo	80	H
<i>Delonix regia</i>	royal poinciana	50	L
<i>Diospyros dignyna</i>	black sapote	25	U
<i>Enterolobium cyclocarpum</i>	earpod tree	80	L
<i>Erythrina crista-galli</i>	coral tree	25	L
n <i>Erythrina sandwicensis</i>	wiliwili	30	
<i>Erythrina variegata</i> 'Orientalis'	tiger's claw	35	U
<i>Eucalyptus</i> spp.	eucalyptus	variable	L, H
<i>Eugenia brasiliensis</i>	grumichama, Brazilian plum	15	U
<i>Ficus benghalensis</i>	Indian banyan	80	L
<i>Ficus lyrata</i>	fiddle leaf fig	35	L
<i>Ficus microcarpa</i>	Chinese banyan	50	H
<i>Grevillea robusta</i>	silk oak	60	E
<i>Hernandia nymphaeifolia</i>	lantern tree	50	L
<i>Hibiscus elatus</i>	Cuban bast	50	U
<i>Ilex vomitoria</i>	yaupon holly	20	U
<i>Jatropha integerrima</i>	rose-flowered jatropha	15	U
<i>Ligustrum lucidum</i>	glossy privet	30	E
<i>Malpighia glabra</i>	Barbados cherry	20	L
<i>Mammea americana</i>	mamaya apple	40	U
<i>Mangifera indica</i>	mango	50	U
<i>Manilkara zapota</i>	sapodilla	30	U
<i>Melaleuca quinquenervia</i>	paper bark, cajeput tree, punk	25–30	H
<i>Millettia pinnata</i>	pongamia	50	L
<i>Nolina recurvata</i>	pony tail	30	U
<i>Olea europaea</i> 'Cuspidata'	olive	30	E
<i>Parkinsonia aculeata</i>	Jerusalem thorn	30	H
<i>Pithecellobium dulce</i>	'opiuma	50	U
<i>Plumeria</i> spp.	plumeria, frangipani	20	L
<i>Podocarpus gracilior</i>	African fern pine	20	L
<i>Pouteria sapota</i>	mamey sapote	30	U
<i>Prosopis pallida</i>	kiawe	50	U
<i>Psidium cattleianum</i>	strawberry guava	20	H
<i>Psidium guajava</i>	guava	25	H
<i>Schefflera actinohylla</i>	octopus tree	30	U
<i>Schinus molle</i>	California pepper	30	U
<i>Schotia brachypetala</i>	schotia	30	L
<i>Senna surattensis</i>	kolomona	20	E
<i>Sophora tomentosa</i>	Silver bush	15	L
<i>Spathodea campanulata</i>	African tulip tree	50	H
<i>Strelitzia nicolai</i>	white bird-of-paradise tree	18	L
<i>Syzygium cumini</i>	jambolan plum	40	U
<i>Syzygium jambos</i>	rose apple	30	U
<i>Tabebuia aurea</i>	golden trumpet, yellow tecoma	30	U
<i>Tamarindus indica</i>	tamarind	30	L
<i>Thevetia peruviana</i>	be-still tree, yellow oleander	25	H
<i>Tipuana tipu</i>	tipu, rosewood	40	L

Botanical name	Common name	Height (inches)	HP-WRA
Vines — Zone 1			
<i>Cryptostegia madagascariensis</i>	rubber vine, purple allamanda		H
<i>Epipremnum pinnatum</i> 'Aureum'	pothos		U
<i>Hylocereus undatus</i>	night-blooming cereus		U
n <i>Ipomoea pes-capre</i> subsp. <i>brasiliensis</i>	beach morning-glory, pōhuehue		
<i>Tecoma capensis</i>	Cape honeysuckle		U
Vines — Zone 2			
<i>Allamanda</i> spp.	allamanda		H
<i>Bougainvillea</i> spp.	bougainvillea		L
<i>Congea tomentosa</i>	wooly congea		
<i>Ficus pumila</i>	creeping fig		L
<i>Hedera canariensis</i>	Algerian ivy		U
<i>Jasminum laurifolium nitidum</i>	star jasmine		U
<i>Jasminum multiflorum</i>	downy jasmine		L
<i>Mandevilla splendens</i>	pink allamanda		U
<i>Petrea volubilis</i>	queen's wreath		L
<i>Philodendron</i> spp.	philodendron		L
<i>Pseudogynoxys chenopodioides</i>	Mexican flame vine		U
<i>Solandra maxima</i>	chalice vine		U
<i>Trachelospermum jasminoides</i>	Confederate jasmine		U
Turf — Zone 1			
<i>Cynodon dactylon</i>	bermudagrass		U
<i>Paspalum distichum</i>	seashore paspalum		H
<i>Stenotaphrum secundatum</i>	St. Augustinegrass		H
Turf — Zone 2			
<i>Zoysia japonica</i>	japanesegrass		L
<i>Zoysia matrella</i>	manilagrass		U
<i>Zoysia matrella</i> var. <i>pacifica</i>	templegrass, mascarenegrass, koreangrass		L