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Ornamental Plants for LOW-ELEVATION DESERT AREAS OF SOUTHERN CALIFORNIA

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TULARE

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LOS
ANGELES

SAN BERNARDINO

RIVERSIDE

SAN
DIEGO

IMPERIAL

CALIFORNIA AGRICULTURAL
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IN THE DESERT AREAS of Southern California the first settlers recognized the need for ornamental plantings for the comfort of both man and beast. Over the years many different kinds of plant materials have been tried. Some have barely survived. Many have proved totally unsuited to the heat, aridity, and wide variation of diurnal temperature, to the soil, water, and salinity characteristic of this desert. A surprising number of plants have grown satisfactorily.

Recent studies have emphasized the marked effect of trees, shrubs, vines, and good ground cover on the temperature in and around homes and buildings. In order to determine what plants could be recommended for home and community use, the authors surveyed existing plants at different seasons from December, 1952, to May, 1954. In the Coachella Valley of Riverside County, the survey covered Palm Springs, Indio, and nearby communities. In the Imperial Valley, plantings in and around Brawley, El Centro, Imperial, Meloland, Holtville, and adjacent areas were studied. Along the Colorado River, the survey included plantings in Needles, Blythe, and on the former United States Department of Agriculture, Yuma Field Station at Bard, California. The survey included plantings in the northern low-elevation valleys, such as Death Valley and around Bagdad.

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MARCH, 1955 •

ORNAMENTAL PLANTS for LOW - ELEVATION DESERT AREAS of SOUTHERN CALIFORNIA

LOCATION

California deserts. There are sections of three desert areas in eastern California: to the north is the high elevation, known as the Great Basin (4,500 to over 7,000 feet elevation); to the south lie both the middle elevation, or the Mojave (2,000 feet to 4,500 feet elevation), and the low elevation, or Sonoran Desert, known locally as the Colorado Desert (below 1,000 feet). The accompanying map shows the close relationship of the middle- and low-elevation areas. This study is concerned with the low-elevation desert, an area lying below 1,000 feet elevation along the Colorado River and in the Imperial, Coachella, Borego, Palo Verde, Panamint, and Death valleys of California.

CLIMATE

Temperature. The climate of the area is desert subtropical, characterized by daily maximums from 90° F to 110° from mid-May through September. During this season, temperatures may be 100° or higher every day for six to ten weeks and occasionally longer. All-time extremes have been recorded from 119° at Bagdad, 130° at Amos, to 134° in Death Valley. During winter months, temperatures in the 80's and 90's have been recorded at all stations.

Temperatures as recorded in standard weather bureau instrument shelters, often in garden-modified environments, are uniform throughout the area. With the exception of Death Valley, station records differ only 2° to 3° plus or minus the average mean daily maximum or

mean daily minimum for each month. In Death Valley, temperatures are consistently 2° to 8° warmer day and night in the summer and 1° to 3° cooler in the winter.

Diurnal fluctuation is wide—40° to 60° being common. Winters are mild, the usual minimum ranging from 28° to 30°. Severe freezes occur infrequently when temperatures drop to 13° to 18°. An extreme low of 5° was recorded on one occasion in Blythe.

Rainfall. Average recorded rainfall is from 1.69 inches in Death Valley to 5.62 inches at Palm Springs, with an average for the entire low-elevation desert area of about 3.5 inches. Almost the entire seasonal rainfall may occur in one storm which can be a violent summer thunderstorm. Precipitation in December, January, and February normally accounts for about half the yearly total. In some years there is practically no rain. Annual rainfall distribution is shown on the accompanying map.

Growing season. This period is long, with 300 days normally expected between spring and fall frosts. Some crops are grown throughout the entire year. As a result of differences in elevation, considerable variation in minimum temperatures is known to occur within short distances. This is indicated by the existence on the slopes above the valley floors of thermal belts in which more tender plants are growing.

Wind. Wind and sandstorms are common occurrences. Windbreaks make possible the growing of a much wider range of plants.

Mean Precipitation Low-elevation Desert

LOCATION	YEARS OF RECORD	ELEVATION, FEET	ANNUAL TOTAL	WINTER December, January, February	SPRING March, April, May	SUMMER June, July, August	FALL Sept., October, November
Amos.....	51	255	2.42	1.05	0.38	0.60	0.39
Bagdad.....	23	784	2.28	0.78	0.54	0.52	0.44
Blythe.....	42	268	4.05	1.61	0.55	0.80	1.09
Brawley.....	44	-119	2.44	1.33	0.45	0.24	0.42
Borego Valley*.....	9	550	3.99	1.44	0.53	1.22	0.80
Calexico.....	32	0	3.18	1.38	0.43	0.67	0.70
Death Valley.....	40	-178	1.69	0.75	0.37	0.22	0.35
El Centro.....	21	-50	3.23	1.63	0.39	0.37	0.84
Imperial.....	32	-69	3.38	1.76	0.36	0.45	0.81
Indio.....	73	-20	3.20	1.71	0.43	0.35	0.71
Mecca.....	39	-175	3.30	1.56	0.42	0.65	0.67
Needles.....	63	477	4.63	1.87	0.69	1.06	1.01
Palm Springs.....	56	420	5.62	3.48	0.86	0.41	0.87
Yuma, Arizona†.....	30	141	3.39	1.17	0.38	0.74	1.10
Average.....			3.34	1.54	0.48	0.59	0.73

* Included in precipitation table only. Highest temperature of record, 120° (July); lowest 19° F (December).
† Across the Colorado River from Bard, California. Complete, long-time weather record is available.

☛ Rainfall is low

IN THE DESERT AREA

Temperatures are high ☛

AVERAGE TEMPERATURE—14 STATIONS

Atmosphere. The desert atmosphere is nearly always extremely dry. A limited area directly north of the Gulf of California frequently experiences moderately high humidity in the summer. The moisture is insufficient to cause clouds but does raise the relative humidity to about 30 per cent. Aside from this localized effect, relative humidity at mid-day over most of the desert during the summer is in the range of 10 to 20 per cent.

SOILS AND SALINITY

Soils. In the Imperial and Palo Verde valleys are alluvial deposits from the Colorado River, which vary in texture from sandy loams to clays. There are areas of windblown sands around the perimeter of the valleys. Soils of the Coachella Valley are of local alluvial origin and range from coarse sands to clay.

Salinity. With the exception of a few high alluvial fans, desert soils are characteristically saline. They must be reclaimed before ornamental plantings will succeed. Reclamation processes are the same as those used for commercial agriculture.

IRRIGATION AND WATER QUALITY

Irrigation. The widely varying soils require different irrigation practices. Plants on lighter soils need to be irrigated with relatively small quantities of water every few days, while on heavy soils irrigation applications should be heavier and less frequent.

Ornamental plantings in the desert are entirely dependent on irrigation. There is a close relationship between irrigation for plant growth and for the control of salinity in the soil.

Water quality. A few areas have high-quality water of local origin. Under these conditions, salinity is seldom a problem. In the main, the low-elevation desert is irrigated with water from the Colorado River, which is a gypsiferous water with about one ton of dissolved

salts per acre foot. With this type of water and with low rainfall, salinity can build up rapidly in the soil unless enough water is used to maintain adequate leaching. In these areas, flood irrigation is recommended for lawns as well as for trees and shrubs to prevent accumulations of salt in the root zone.

Most native plants are susceptible to root rot diseases when the soil around their roots is kept wet during the summer. Consequently, they should be planted by themselves where they can be watered at longer intervals.

The University of California Agricultural Extension Service with offices in each county is available for consultation as to needs and methods of reclamation, soil management, and irrigation practices.

PLANT MATERIALS

Three lists of plant materials* are presented: I—those plants actually observed by the authors or by Edward G. Noble, Superintendent, Department of Agriculture, Yuma Field Station, Bard, California, 1917 to 1948. Plants contributed and rated by Mr. Noble are marked (1) in the list; II—plants reliably reported; and III—suggestions for trial plantings.

Cacti and other succulents, agaves, garden annuals, and bulbs which are commonly grown are not listed. These may be used in variety or season as desired.

All species and varieties in List I are known to be adapted to the low-elevation desert. Those in List II are believed equally satisfactory. Their successful utilization will depend on maintaining suitable cultural conditions. Many plants listed as evergreens may be partly or wholly deciduous in cold winters. Some listed as deciduous may be nearly evergreen in warm winters.

* The nomenclature used follows L. H. Bailey, *Manual of Cultivated Plants*, 1949, and *Hortus Second*, 1941.

LIST I

A grading of 1, 2, 3, and 4 is utilized to indicate frequency of distribution of plants in the area surveyed: 1, a large number of plants in general use in most communities; 2, fewer plants with rather general distribution; 3, a few plants found in three or more locations or many specimens of the same plant in one place; 4, plants found in only one or two places, or a single specimen. Location is shown when the frequency rating is 3 or 4. When location is not listed, general or common (1 or 2) distribution is indicated.

Only those species and varieties found capable of making satisfactory growth and appearance under desert environment are listed. All species accepted for this list were three, four, or more years old, having survived as many complete seasons. Plants in List I were graded for condition: 1, excellent; 2, fair; and 3, acceptable. The grade was not assigned until at least one specimen was found in the grade allowed. To cite an example, many individuals of *Ceratonia siliqua*, Carob, were found apparently showing saline injury and possibly some iron chlorosis before good plants were discovered. The same is true of *Cedrus deodara* and *Acacia baileyana*, excellent specimens of which were found in Palm Springs. The existence of these good specimens prove their suitability to the climate when soil and water are favorable. As a consequence, these species are graded Condition 1.

When only weak, sickly plants of a species were observed under good growing conditions, that species was considered unsuitable, and therefore not listed. *Eucalyptus citriodora* can be cited as an example.

Plants are scored in three grades with respect to drought resistance: 1) drought tolerant, such as desert natives; 2) moderately drought tolerant, such as the olive, oleander, most palms, and the almond, which will use large quantities of

water if available, but which will do reasonably well on greatly reduced supplies; and 3) not drought tolerant, such as citrus, elms, willows, myrtles, or pyracantha.

Plants are not rated for salinity tolerance. However, relative susceptibility, or tolerance, is indicated by the location and general utilization of a plant. Those widely distributed in all areas can be considered moderately tolerant.

LIST II

This compilation is from published and unpublished lists of plants for low-elevation desert areas of California and Arizona. No gradings are given. The list has been compiled from five sources indicated by numbers corresponding to the numbered list below:

(1) 1938. *Ornamental Plants for Subtropical Regions*. Roland S. Hoyt. Livingston Press, Los Angeles.

(2) 1951. *Plants for Imperial Valley*. A mimeographed leaflet issued by the University of California Agricultural Extension Service of Imperial Valley, El Centro, California.

(3) 1951. *Desert Agriculture*. Circular 176 of the University of California Agricultural Extension Service.

(4) 1952. *Trees for Yuma County*. Mimeographed leaflet issued by the University of Arizona Agricultural Extension Service, Yuma County, Yuma, Arizona.

(5) 1953. Private, unpublished list. Courtesy of Arthur Barton, Glendale, California.

LIST III

These plant materials are suggested for experimental trial. Many have been recommended for desert areas in other parts of the world and may well be adapted. The list has been prepared from personal notes of the authors (no reference number) and the following references with source indicated by number:

(6) 1948. *Shrubs and Trees for Australian Gardens*. Ernest E. Lord, Section V, "The Hot Dry Inland," pp. 367-77.

(7) 1951. *Flowering Shrubs and Trees for South African Gardens*. Sima Eliovson, "Plants for Dry Conditions," pp. 40-41.

(8) 1951. *Ornamental Shrubs for the Southern Great Plains*. Farmers Bulletin 2025, U. S. Department of Agriculture.

Scientific name	Common name	Frequency	Location	Condition	Remarks
<i>Cedrus deodara</i>	Deodar cedar	4	El Centro, Palm Springs	1	Specimen in El Centro shows saline injury
<i>Cupressus glabra</i>	Arizona cypress	1		1	Usually grown as <i>C. arizonica</i>
<i>Cupressus macrocarpa</i>	Monterey cypress	4	Blythe, Thermal	2	
<i>Cupressus sempervirens</i>	Italian cypress	1		1	Great variation from columnar to spreading
<i>Juniperus chinensis</i>	Pfitzer juniper	1		1	Several varieties; bright blue berries
<i>Juniperus horizontalis</i>	Creeping juniper	4	Blythe	1	
<i>Juniperus sabina</i>	Savin juniper	2		1	
<i>Pinus canariensis</i>	Canary Island pine	2		1	Injured by salinity
<i>Pinus halepensis</i>	Aleppo pine	1		1	
<i>Thuja orientalis</i>	Chinese arborvitae	1		1	Shrub and tree forms

Palms

<i>Arecastrum romanzoffianum</i>	Cocós palm	3	Blythe, El Centro	2	Tall slender grayish trunk
<i>Chamaerops humilis</i> (1)	European fan palm	4	Bard	1	Hairy trunk
<i>Erythea brandegeei</i> (1)	San Jose Hesper palm	4	Bard	1	
<i>Erythea edulis</i> (1)	Guadalupe palm	4	Bard	1	
<i>Phoenix canariensis</i>	Canary Island palm	1		1	Heavy trunk; wide spreading
<i>Phoenix dactylifera</i>	Date palm	1		1	Halawi, Saidy, Zahidi, Barbi recommended for home use
<i>Sabal exul</i> (1)	Victoria palmetto	4	Bard	1	
<i>Sabal texana</i> (1)	Texas palmetto	4	Bard	1	
<i>Washingtonia filifera</i>	California fan palm	1		1	Desert native; heavy trunk
<i>Washingtonia robusta</i>	Mexican fan palm	1		1	Slender trunk

Evergreen trees

<i>Acacia pendula</i>	Weeping acacia	3	Brawley, Indio	1	Attractive foliage
<i>Acacia retinodes</i>	Wirilda	3	Brawley, Thermal	1	Attractive flowers

Grow Satisfactorily in Low-elevation Desert Environment

Drought resistance	Height							Growth habit								Foliage color							Frost tolerance		
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
3						X				X		X					X								X
1-2					X	X				X		X				X	X		X						X
2					X	X				X		X						X							X
2						X		X			X	X						X							X
2		X						X				X				X									X
3		X						X				X						X							X
2		X						X				X				X									X
3						X				X		X				X									X
1-2						X	X	X					X			X									X
2				X	X				X	X		X					X								X

2					X				X		X			X							X
2			X	-	X			X						X		X					X
2					X	X		X							X						X
2					X			X							X						X
2				X	-	X	X	X			X				X						X
2					X	-	X			X							X				X
2					X			X						X							X
2					X			X							X						X
2					X			X							X						X
2					X	X		X			X						X				X
2					X	X		X			X						X				X

2			X			X			X		X							X
2			X		X			X			X							X

(Continued on next page)

Scientific name	Common name	Fre- quency	Location	Condi- tion	Remarks
<i>Acacia saligna</i>	Golden wreath wattle	4	El Centro	2	Shows some saline burn
<i>Arbutus unedo</i>	Strawberry tree	2		1	Fine red fruits
<i>Bauhinia variegata</i>	Orchid tree, moun- tain ebony	2		2	Purple flowers in spring; partly deciduous
<i>Brachychiton populneum</i>	Bottle tree	1		1	Weeping form best
<i>Callistemon viminalis</i>	Fire-fall tree	1		1	Fine red flowers; weeping
<i>Casuarina species</i>	Beefwood	1		1	Several species
<i>Celtis laevigata</i>	Mississippi hack- berry	3	Holtville, Needles	1	Good lawn tree; fast grow- ing
<i>Ceratonia siliqua</i>	Carob, St. John's bread	1		1	Not salt tolerant
<i>Citrus auranti- folia</i>	Mandarin lime (Rangpur)	4	Indio	1	Avoid use in red scale areas
<i>Citrus aurantium</i>	Sour or bitter orange	2		2	Avoid use in red scale areas
<i>Citrus grandis (maxima)</i>	Shaddock	4	Indio	1	Avoid use in red scale areas
<i>Citrus limon</i>	Lemon	2		1	Avoid use in red scale areas; Eureka best variety
<i>Citrus medica</i>	Citron	4	Indio	1	Avoid use in red scale areas
<i>Citrus mitis</i>	Calamondin	4	Indio	1	Avoid use in red scale areas; good street tree
<i>Citrus paradisi</i>	Grapefruit	1		1	Avoid use in red scale areas; Marsh seedless best va- riety
<i>Citrus reticulata</i>	Tangerine	2		1	Avoid use in red scale areas
<i>Citrus sinensis</i>	Valencia and navel orange	2		1	Avoid use in red scale areas
<i>Eriobotrya japonica</i>	Loquat	3	Blythe, Palm Springs	1	Edible fruit
<i>Eucalyptus ca- maldulensis (E. rostrata)</i>	Red gum	1		1	Widely used as windbreak
<i>Eucalyptus poly- anthemos</i>	Australian beech; silver dollar euca- lyptus	4	Desert Center, Needles	1	Good cut foliage
<i>Eucalyptus pulverulenta</i>	Corkscrew euca- lyptus	4	Blythe	2	Good cut foliage
<i>Eucalyptus rudis</i>	Desert gum	1		1	Attractive blue-gray foliage
<i>Eucalyptus sider- oxylon rosea</i>	Pink-flowered iron bark	3	Blythe, El Centro, Palm Springs	2-3	Striking black bark and bluish foliage

Grow Satisfactorily in Low-elevation Desert Environment (Continued)

Drought resistance	Height							Growth habit							Foliage color						Frost tolerance				
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
3					X			X					X						X	X					X
2					X				X			X						X							X
3					X				X				X			X							X		
2						X							X		X	X									X
2					X						X		X		X		X								X
2					X	-	X				X			X		X									X
3						X		X					X				X								X
2					X				X			X						X							X
3				X					X			X					X							X	
3					X				X			X					X						X		
3					X				X			X					X						X		
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3					X				X			X					X						X		
3					X				X			X					X						X		
3					X				X			X					X						X		
3					X				X			X					X						X		
3					X				X			X					X						X		
3					X				X			X													

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Scientific name	Common name	Frequency	Location	Condition	Remarks
<i>Eucalyptus tereticornis</i> (<i>E. umbellata</i>)	Gray gum	1		2	Tall tree with good form
<i>Eucalyptus viminalis</i>	Manna gum	3	Blythe	1	Good windbreak
<i>Ficus benjamina</i>		4	Bard	3	Needs shade and heavy watering
<i>Ficus macrophylla</i>	Moreton Bay fig	4	Bard	3	Needs shade when young
<i>Fortunella margarita</i>	Kumquat	4	Bard	1	Nagami variety
<i>Grevillea robusta</i>	Silk oak	1		1	Several forms; will stand lawn watering
<i>Leptospermum laevigatum</i>	Australian tea tree	4	Meloland	2	
<i>Magnolia grandiflora</i>	Magnolia, bull bay	4	Palm Springs	1	Fine flowering shade tree; will stand lawn watering
<i>Olea europaea</i>	Olive	1		1	Large trees move easily
<i>Parkinsonia aculeata</i>	Jerusalem thorn	1		1	Green stems; golden flowers
<i>Pistacia atlantica</i>	African pistache	3	Brawley, Indio	1	Male and female trees
<i>Pistacia mexicana</i>	Mexican pistache	4	Indio	1	Fine foliage; possible hybrid; male and female trees
<i>Prosopis chilensis</i>	Chilean mesquite	3	Bard, El Centro	1	Good form; large pods
<i>Prunus caroliniana</i>	Carolina cherry	4	Indio	2	Needs shade
<i>Quercus agrifolia</i>	Coast live oak	4	Palm Springs	2	Probably marginal
<i>Quercus virginiana</i>	Southern live oak	4	Holtville	1	Dense crown makes heavy shade; needs water
<i>Rhus lancea</i>		3	El Centro, Indio	1	Beautiful foliage; very promising
<i>Schinus molle</i>	Peruvian pepper (California pepper)	2		1-2	Feathery foliage; rose colored berries
<i>Schinus terebinthifolius</i>	Brazilian pepper	3	Blythe, El Centro	1	Good shade tree
<i>Tamarix aphylla</i> (<i>T. articulata</i>)	Athel or tamarisk	1		1	Good windbreak; needs pruning
<i>Ulmus parvifolia</i>	Chinese evergreen elm	2		2	Usually deciduous in the area; ornamental fruit in winter; needs pruning

Grow Satisfactorily in Low-elevation Desert Environment (Continued)

Drought resistance	Height							Growth habit							Foliage color							Frost tolerance			
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
2							x				x		x				x								x
2						x	x	x					x		x		x								x
3						x		x					x				x						x		
3						x		x				x						x						x	
2				x					x		x	x				x									x
2						x				x		x									x				x
2					x			x					x				x								x
3					x	x			x			x						x							x
2					x			x				x							x						x
1					x			x					x												x
2					x	x		x	x					x			x								x
2					x			x	x			x						x							x
1						x		x						x											x
3					x					x		x						x							x
3					x	x		x	x			x						x							x
2					x			x					x		x	x									x
3						x			x					x		x	x								x
3					x				x			x						x						x	
1						x	x			x		x					x								x
3					x	x		x				x			x		x								x

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Scientific name	Common name	Frequency	Location	Condition	Remarks
<i>Acer</i> species	Maple	4	Blythe	2	Young trees; looks promising
<i>Ailanthus altissima</i>	Tree of heaven	3	Palm Springs	1	Needs pruning
<i>Albizia julibrissin</i>	Silk tree	4	Meloland	2	Attractive flowers
<i>Carya illinoensis</i>	Pecan	2		1	Mahan, Burkett, Success varieties
<i>Catalpa speciosa</i>	Catalpa	3	Blythe, Palm Springs	1	Good flowers
<i>Cotinus coggygria</i>	Smoke tree	4	Holtville	2	Fine tree; will stand lawn watering
<i>Dalbergia sissoo</i>	Sissoo tree	4	Indio	1	Good foliage
<i>Ficus carica</i>	Fig	1		1	Edible fruit
<i>Fraxinus velutina</i>	Arizona or Modesto ash	1		1	Fast growing shade tree
<i>Gleditsia triacanthos</i>	Honey locust	4	Palm Springs	3	Needs pruning
<i>Jacaranda acutifolia</i>	Jacaranda	1		2	Blue flowers
<i>Juglans</i> species	Royal hybrid walnut	4	Bard	1	
<i>Maclura pomifera</i>	Osage orange	2		1	Will stand lawn watering
<i>Melia azedarach</i>	Chinaberry tree	2		1	Will stand lawn watering needs pruning
<i>Melia azedarach umbraculiformis</i>	Texas umbrella tree	1		1	Dense shade
<i>Morus</i> species	Mulberry	1		1	Kingan fruitless recommended; fruit may be a nuisance; good for lawn planting
<i>Pistacia chinensis</i>	Chinese pistache	4	Bard	1	Colorful fruit; male and female tree
<i>Platanus acerifolia</i>	London plane	4	Blythe, Palm Springs	1	Good lawn tree
<i>Platanus racemosa</i>	Western sycamore	2		1	Good lawn tree; stands pruning
<i>Populus alba</i>	White poplar, locally called silver maple	4	Blythe	1	Good lawn tree
<i>Populus balsamifera</i>	Balsam poplar	4	Brawley	1	Several young trees
<i>Populus canadensis</i>	Carolina poplar	3	Blythe	1	Will stand lawn watering

Grow Satisfactorily in Low-elevation Desert Environment (Continued)

Drought resistance	Height							Growth habit							Foliage color							Frost tolerance			
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
3					X				X				X			X									X
3						X		X				X					X								X
3					X	X		X				X				X									X
2						X	X		X				X				X								X
3					X	-	X	X				X					X								X
3					X			X								X						X			X
3						X	X	X				X					X							X	
2					X			X				X					X							X	
2						X			X				X				X							X	
2						X							X				X								X
2					X	X			X			X						X							X
2					X				X			X						X							X
3					X	X			X			X			X			X							X
2					X	X		X					X				X								X
3					X	X		X					X			X	X								X
3						X		X					X			X									X
3					X				X			X				X			X						X
3						X							X				X								X
3					X				X			X				X			X						X

(Continued on next page)

Scientific name	Common name	Fre- quency	Location	Condi- tion	Remarks
<i>Populus candi- cans</i>	Balm of Gilead	4	Blythe	1	Windbreak and shade tree
<i>Populus nigra italica</i>	Lombardy poplar	3	Blythe, Needles	1	Subject to borers; short lived
<i>Prunus</i> species	Flowering peach, almond, apricot, cherry, plum	2		2	Most flower well only after cold winters
<i>Prunus cerasifera pissardii</i>	Purple-leaved plum	4	Blythe	1	Good lawn tree
<i>Robinia pseudo- acacia</i>	Black locust	1		2	Fragrant white flowers; good foliage
<i>Salix babylonica</i>	Weeping willow	2		2	Good lawn tree; give plenty of water
<i>Salix nigra</i>	Black willow	2		2	Good lawn tree
<i>Ulmus hollandica</i>	Dutch elm	4	Holtville	1	Will stand lawn watering
<i>Ulmus pumila</i>	Siberian elm	1		1	Needs annual pruning
<i>Ziziphus jujuba</i>	Jujube	3	Bard, Needles, Palm Springs	1	Edible fruit; good lawn tree

Evergreen shrubs

<i>Abelia grandiflora</i>	Abelia	4	Brawley, El Centro	1	
<i>Acacia farnesiana</i>	Huisache, sweet acacia	2		1	
<i>Buddleja asiatica</i>	White buddleia	4	Needles	1	Fragrant white flowers
<i>Buddleja davidii</i>	Summer lilac	4	El Centro	1	Lilac to rose-purple flowers
<i>Buddleja mada- gascariensis</i>	Yellow buddleia	4	Needles	1	Yellow flowers
<i>Callistemon citrinus</i>	Bottle brush	4	Blythe	1	
<i>Callistemon rigidus</i>	Bottle brush	3	Brawley, El Centro	1	
<i>Carissa grandi- flora</i>	Natal plum	2		1	
<i>Cassia artemi- sioides</i>	Wormwood cassia	1		1	Can be pruned low
<i>Cassia nairobensis</i>	Nairobi cassia	4	El Centro	1	
<i>Cassia</i> species		4	Brawley	1	Splendida and other va- rieties
<i>Cestrum diurnum</i>	Day jessamine	4	Needles	1	Fragrant white flowers

FOLD THESE PAGES DOWN FOR MAP

List I—Species and Varieties of Plants Known to Grow Satisfactorily in Low-elevation Desert Environment (Continued)

Evergreen shrubs (continued)

Scientific name	Common name	Frequency	Location	Condition	Remarks	Drought resistance	Height								Growth habit							Foliage color							Frost tolerance		
							6'-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
<i>Chamaelaucium uncinatum</i>	Geraldton wax-flower	4	Palm Springs, Thermal	1	Excellent cut flowers	2				x	x					x				x	x									x	
<i>Citrus limon</i>	Meyer lemon	4	Blythe	1	Good tub plant or hedge; good fruit	3				x							x													x	
<i>Cocculus laurifolius</i>	Snail seed	3	Bard, El Centro, Palm Springs	2	North exposure; good cut foliage	2					x					x														x	
<i>Cotoneaster pannosa</i>	Cotoneaster	4	Blythe	1	Red berries in winter	2				x	x					x				x											x
<i>Dadonaea viscosa</i>	Hop bush	4	Brawley	2	Narrow-leaved form; also available in purple leaf	2				x	x						x														x
<i>Duranta repens</i>	Pigeon berry	2	Meloland	1	Colorful flowers and fruit	3					x	x					x			x	x										x
<i>Elaeagnus pungens</i>	Oleaster	4		2			2					x	x					x													
<i>Eremocitrus glauca</i>	Australian desert kumquat	4	Indio	1	Fruit edible	2						x																			x
<i>Euonymus japonicus</i>	Japanese euonymus	2		1	Green and variegated	3				x	x						x														x
<i>Euonymus kiautschovicus</i> (E. patens (1))	Chinese euonymus	4	Bard	1		3					x																				x
<i>Feijoa sellowiana</i>	Pineapple guava, Feijoa	2		1	Edible fruit	2							x																		x
<i>Gardenia</i> species	Gardenia	4	Palm Springs	1	Sheltered locations	3				x							x														x
<i>Gossypium thurberi</i>	Thurber's cotton	4	Bard	1	Arizona native	2					x								x											x	
<i>Heteromeles arbutifolia</i>	Toyon, Christmas berry	3	Holtville, Palm Springs	2	Fine red berries in winter; avoid heavy watering	2					x	x																			x
<i>Hibiscus</i> species	Hibiscus	1		1	Several species and varieties	3					x	x								x	x									x	x
<i>Ipomoea crassicaulis</i>	Shrub morning glory	3	Holtville	1	Attractive flowers	3				x	x						x														x
<i>Jasminum humile</i>	Jasmine	4	Needles	1	Yellow flowers	3					x																				x
<i>Lantana camara</i>	Lantana	3	Bard, Blythe, Needles	1	Sprouts from roots after freeze	2					x																				x
<i>Lantana montevidensis</i> (L. sellowiana)	Lantana	4	Desert Center	1	Lavender flowers; trailing	2		x								x															x
<i>Leucophyllum frutescens</i> (L. texanum)	Texas ranger	1		1	Keep on the dry side	2					x																				x
<i>Ligustrum japonicum</i>	Japanese privet	3	Bard, Needles	1	Stands heavy watering; good hedge	3						x																			x

(Continued on next page)

List I—Species and Varieties of Plants Known to Grow Satisfactorily in Low-elevation Desert Environment (Continued)

Evergreen shrubs (continued)

Evergreen shrubs (continued)							Height								Growth habit							Foliage color							Frost tolerance		
Scientific name	Common name	Frequency	Location	Condition	Remarks	Drought resistance	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
<i>Chamaelaucium uncinatum</i>	Geraldton wax-flower	4	Palm Springs, Thermal	1	Excellent cut flowers	2			x	x				x					x	x		x								x	
<i>Citrus limon</i>	Meyer lemon	4	Blythe	1	Good tub plant or hedge; good fruit	3			x						x			x					x							x	
<i>Cocculus laurifolius</i>	Snail seed	3	Bard, El Centro, Palm Springs	2	North exposure; good cut foliage	2				x				x				x						x						x	
<i>Cotoneaster pannosa</i>	Cotoneaster	4	Blythe	1	Red berries in winter	2			x	x				x			x		x			x									x
<i>Dodonaea viscosa</i>	Hop bush	4	Brawley	2	Narrow-leaved form; also available in purple leaf	2			x	x					x			x					x						x		x
<i>Duranta repens</i>	Pigeon berry	2		1	Colorful flowers and fruit	3				x	x			x				x				x	x							x	
<i>Elaeagnus pungens</i>	Oleaster	4	Meloland	2		2				x	x			x				x					x				x				x
<i>Eremocitrus glauca</i>	Australian desert kumquat	4	Indio	1	Fruit edible	2					x				x			x							x						x
<i>Euonymus japonicus</i>	Japanese euonymus	2		1	Green and variegated	3			x	x					x			x						x							x
<i>Euonymus kiautschovicus</i> (E. patens (1)	Chinese euonymus	4	Bard	1		3				x				x										x							x
<i>Feijoa sellowiana</i>	Pineapple guava, Feijoa	2		1	Edible fruit	2					x				x			x						x							x
<i>Gardenia species</i>	Gardenia	4	Palm Springs	1	Sheltered locations	3			x						x			x						x							x
<i>Gossypium thurberi</i>	Thurber's cotton	4	Bard	1	Arizona native	2				x				x					x			x							x		
<i>Heteromeles arbutifolia</i>	Toyon, Christmas berry	3	Holtville, Palm Springs	2	Fine red berries in winter; avoid heavy watering	2				x	x			x				x						x							x
<i>Hibiscus species</i>	Hibiscus	1		1	Several species and varieties	3				x	x				x				x				x	x					x	x	
<i>Ipomoea crassicaulis</i>	Shrub morning glory	3	Holtville	1	Attractive flowers	3			x	x					x				x				x							x	
<i>Jasminum humile</i>	Jasmine	4	Needles	1	Yellow flowers	3			x					x			x	x						x						x	
<i>Lantana camara</i>	Lantana	3	Bard, Blythe, Needles	1	Sprouts from roots after freeze	2			x					x				x					x							x	
<i>Lantana montevidensis</i> (L. sellowiana)	Lantana	4	Desert Center	1	Lavender flowers; trailing	2		x						x			x							x						x	
<i>Leucophyllum frutescens</i> (L. terauum)	Texas ranger	1		1	Keep on the dry side	2			x						x			x							x						x
<i>Ligustrum japonicum</i>	Japanese privet	3	Bard, Needles	1	Stands heavy watering; good hedge	3				x						x		x						x							x

(Continued on next page)

MOJAVE AND SONORAN DESERTS OF CALIFORNIA

The low-elevation desert (Sonoran Desert) is shown in white. It consists of the Coachella, Imperial, and Palo Verde valleys, a border strip northward along the Colorado River, and two extensive southeast-to-northwest troughs, one an extension of the Palo Verde Valley running northward from Blythe, the other an extension inland past Cadiz and including Death Valley. These areas are surprisingly uniform in climate

and in native and exotic ornamental flora. They are very different from the western portion of the Mojave Desert, the ornamental flora of which will be listed in a later publication.

Average annual precipitation is shown on the small map. Note that the low-rainfall area (white) on the precipitation map includes the entire low-elevation desert.

Grow Satisfactorily in Low-elevation Desert Environment (Continued)

Drought resistance	Height							Growth habit							Foliage color							Frost tolerance			
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
3			.		X			X		X		X					X	X							X
3				X	X				X			X						X							X
3				X				X				X				X			X					X	
2			X	X					X			X					X	X							X
2			X	X				X					X				X				X				X
2				X	X			X				X						X							X
2			X	X				X			X		X			X			X						X
2				X				X			X		X												X
3					X			X	X			X						X							X
2			X	X	X			X				X					X						X		
3				X				X						X		X								X	
2					X				X				X					X							X
2					X				X									X					X		
2					X			X					X					X							X
2				X				X					X				X	X							X
2																		X							
2		X	-	X				X	X			X						X	X						X
2			X	X	X				X			X						X							X
1			X	X							X		X					X							X
2				X	X			X					X			X							X		
1				X	X			X						X		X			X						X
2				X				X					X			X		X							X
3				X				X					X				X						X		

(Continued on next page)

Evergreen shrubs (concluded)

Scientific name	Common name	Frequency	Location	Condition	Remarks
<i>Thevetia peruviana</i> (T. nereifolia)	Yellow oleander	1		1	Good flowers
<i>Viburnum</i> species	Viburnum	4	Thermal	1	Needs part shade; robustum and others
<i>Vitex negundo heterophylla</i>	Monks pepper	2		1	Open lacy effect; nearly deciduous
<i>Wigandia caracasana</i>	Wigandia	3	Needles, Palm Springs	1	Big leaved soft shrub; blue flowers
<i>Xylosma senticosa</i>	Xylosma	4	Palm Springs	1	

Deciduous shrubs

<i>Cercis reniformis</i>	Texas redbud	4	Bard	1	Red flowers in spring
<i>Chaenomeles lagenaria</i> (1) (<i>Cydonia japonica</i>)	Japanese flowering quince	4	Bard	1	Spiny barrier hedge
<i>Elaeagnus angustifolia</i>	Russian olive	4	Bard	1	Seedlings abundant—can be nuisance; makes small tree
<i>Erythrina cristagalli</i>	Coral tree	4	Blythe	1	Needs winter protection; red flowers
<i>Lagerstroemia indica</i>	Crapemyrtle	1		1	Flowering shrub or small tree; smooth bark; takes lawn watering
<i>Punica granatum</i>	Pomegranate	1		1	Red flowers and fruit; good hedge; dwarf form available
<i>Spiraea trichocarpa</i> (1)	Korean spirea	4	Bard	1	White flowers in clusters
<i>Spiraea vanhouttei</i>	Bridal wreath	2		3	White flowers in clusters
<i>Syringa vulgaris</i>	Lilac	4	Blythe	1	Full shade; will flower after very cold winter

Vines*

<i>Antigonon leptopus</i>	Rosa de Montana, coral vine	1		1	Coral colored flowers; sprouts after frost
<i>Asparagus plumosus</i>	Asparagus fern	4	Needles	1	

* Nearly all vines can be held low or trained high depending on the support provided.

row Satisfactorily in Low-elevation Desert Environment (Continued)

Drought istance	Height							Growth habit								Foliage color							Frost tolerance		
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
2				X	X			X						X		X	X								X
3				X					X			X						X							X
3				X	X			X					X	X		X			X						X
2				X				X					X					X							X
3			X						X				X				X								X

2					X	X		X					X			X	X								X
2		X	X					X					X					X							X
2					X			X					X						X						X
3			X	X				X					X			X						X			
2					X			X					X			X	X								X
1		X	X		X				X			X				X	X								X
3			X					X				X					X								X
3			X					X				X					X								X
3			X						X			X						X							X

3												X					X							X	
3								X				X					X								X

(Continued on next page)

Scientific name	Common name	Frequency	Location	Condition	Remarks
<i>Asparagus sprengeri</i>	Asparagus fern	3	Blythe, Needles	1	Low growing
<i>Bougainvillea</i> species	Bougainvillea	1		1	Many varieties; comes back after freeze; evergreen
<i>Campsis grandiflora</i>	Chinese trumpet creeper	4	Bard	1	Large flowers; deciduous
<i>Campsis radicans</i>	Common trumpet vine	2		1	Orange flowers; deciduous
<i>Clytostoma callistegioides</i>	Argentine trumpet vine	4	Palm Springs	1	Blue flowers; evergreen
<i>Cryptostegia grandiflora</i>	Rubber vine	4	Bard	1	Milky juice; evergreen
<i>Doxantha unguicatis</i>	Cats claw	4	El Centro, Palm Springs	1	Yellow flowers; slender; evergreen
<i>Ficus pumila</i>	Creeping fig	4	Brawley	1	Wall cover; milky juice
<i>Hedera helix</i>	English ivy	2		1	Needs shade and moisture
<i>Ipomoea dissecta</i>	Alamo vine	4	Needles	1	Dies back in winter
<i>Ipomoea purpurea</i>	Common morning glory	2		1	Dies back in winter
<i>Jasminum</i> species	Jasmine	1		1	Several species; evergreen
<i>Lonicera japonica</i>	Japanese honeysuckle	2		2	Fragrant flowers; evergreen
<i>Lycium halimifolium</i>	Matrimony vine	4	Blythe	1	Dies back in winter
<i>Parthenocissus quinquefolia</i>	Virginia creeper	1		1	Good wall cover; deciduous
<i>Parthenocissus tricuspidata</i>	Boston ivy	4	Palm Springs	1	Good wall cover; deciduous
<i>Passiflora edulis</i>	Passion vine	2		1	Rapid grower; deciduous; spray for caterpillars
<i>Phaseolus caracalla</i>	Snail vine	4	Palm Springs	1	
<i>Pithecoctenium cynanchoides</i>		4	Palm Springs	1	Creamy flowers; evergreen
<i>Pyrostegia ignea</i>	Golden shower	2		1	Bright orange flowers in winter; evergreen
<i>Senecio confusus</i>	Climbing senecio	4	Holtville	1	Orange flowers; evergreen
<i>Tecomaria capensis</i>	Cape honeysuckle	1		1	Orange flowers; dark foliage; evergreen
<i>Trachelospermum jasminoides</i>	Star jasmine	2		1	White flowers; vine or ground cover; evergreen
<i>Vinca minor</i>	Periwinkle	4	Needles	1	Ground cover

Grow Satisfactorily in Low-elevation Desert Environment (Continued)

Drought resistance	Height							Growth habit							Foliage color							Frost tolerance			
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
2								X					X			X									X
2												X				X	X							X	
3													X				X						X		
3												X					X								X
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Scientific name	Common name	Frequency	Location	Condition	Remarks
<i>Vitis vinifera</i>	European grape	3	Blythe, Holtville	1	Deciduous; needs annual pruning; Thompson seedless, Perlette, Delight, Black Monucca, Ribier recommended varieties
<i>Wistaria sinensis</i>	Wistaria	2		2	Heavy deciduous vine

Desert native trees and shrubs

<i>Acacia greggii</i>	Cats claw	4	Needles	1	Evergreen shrub
<i>Cercidium torreyanum</i>	Palo Verde	1		1	Green bark; small tree
<i>Chilopsis linearis</i>	Desert willow	1		1	Slender leafed, large shrub or tree; good flowers
<i>Dalea spinosa</i>	Smoke tree	3	Cathedral City	1	Gray spiny shrub or tree
<i>Encelia farinosa</i>	Incienso	4	Palm Springs	1	Yellow flowers; evergreen shrub
<i>Eriodictyon crassifolium</i>	Yerba santa	4	Palm Springs	1	Lavender flowers; evergreen shrub
<i>Fallugia paradoxa</i>	Apache plume	4	Borego	1	White flowers; evergreen shrub
<i>Fouquieria splendens</i>	Ocotillo, devil's coachwhip	3	Blythe, Cathedral City	1	Long spiny stems; red flowers
<i>Hyptis emoryi</i>	Desert lavender	3	Borego, Palm Springs	1	Fragrant lavender flowers; evergreen shrub
<i>Isomeris arborea</i>	Bladder pod	3	Borego, Palm Springs	1	Yellow flowers; evergreen shrub
<i>Larrea tridentata</i> (L. divaricata)	Creosote bush	3	Blythe, Cathedral City, Needles	1	Large evergreen shrub
<i>Olneya tesota</i> (1)	Desert ironwood	4	Bard	1	Small spreading tree; hard wood
<i>Populus fremontii</i>	Valley cottonwood	1		1	Male tree is without cotton; good windbreak
<i>Prosopis glandulosa</i> (P. juliflora)	Mesquite	1		1	Large evergreen shrub or tree; yellow flowers
<i>Prosopis pubescens</i>	Screwbean mesquite	4	Bard	1	Evergreen shrub or tree; curled pods
<i>Quercus turbinella</i>	Scrub oak	4	Palm Springs	1	Evergreen shrub
<i>Rhus ovata</i>	Sugar bush	3	Indio, Palm Springs	1	Attractive small tree or shrub
<i>Washingtonia filifera</i>	California fan palm	1		1	
<i>Yucca brevifolia</i>	Joshua tree	4	Needles	1	Specimen plant

Grow Satisfactorily in Low-elevation Desert Environment (Continued)

Drought resistance	Height							Growth habit							Foliage color							Frost tolerance		
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy
2													X				X							X
2												X				X								X

1			X					X					X			X								X
1					X			X						X		X								X
1					X			X					X					X						X
1					X			X					X	X				X						X
1		X						X					X					X						X
1			X	X					X			X				X		X						X
1			X					X					X							X				X
1				X										X		X								X
1			X	X							X		X					X						X
1			X					X					X			X		X						X
1				X				X					X							X				X
1					X			X													X			X
3						X		X	X				X				X							X
1				X	X	X		X					X			X								X
1				X				X					X			X								X
1				X					X			X				X		X						X
1					X			X				X				X		X						X
2				X		-	X	X			X							X						X
1				X									X				X							X

List I—Species and Varieties of Plants Known to

Miscellaneous

Scientific name	Common name	Frequency	Location	Condition	Remarks
<i>Acanthus mollis</i>	Acanthus	4	Brawley	2	Shade; perennial
<i>Amaranthus tri-color</i>	Joseph's coat	2		1	Borders; variegated foliage annual
<i>Aptenia cordifolia</i>	Dew plant	4	Needles	1	Succulent pot plant; ground cover
<i>Arundo donax</i>	Giant reed	1		1	Temporary windbreak; perennial; variegated forms
<i>Aster</i> species	Perennial asters	4	Thermal	1	Needs shade
<i>Canna</i> species	Canna	1		1	Bedding plant; perennial
<i>Clerodendrum bungei</i>	Rose glory-bower	4	Bard	1	Evergreen; perennial; rose red flowers
<i>Cortaderia selloana</i>	Pampas grass	1		1	Plume-like heads; perennial
<i>Cycas revoluta</i>	Sego palm	4	Cathedral City	1	Specimen plant
<i>Cyperus alternifolius</i>	Umbrella plant	3	Blythe, Holtville, Needles	1	Plant near or in pools
<i>Dichondra repens</i>	Dichondra	4	Bard	1	Ground cover for shade only; perennial
<i>Euphorbia heterophylla</i>	Mexican fire-plant	2		1	Borders; perennial
<i>Ficus elastica</i>	Rubber plant	4	Cathedral City, Palm Springs	1	Protected container plantings
<i>Hedychium</i> species	Ginger	4	Palm Springs	1	Needs wind protection and shade
<i>Lobelia laxiflora</i>		4	Needles	1	Perennial; may be used as ground cover
<i>Mentha piperita</i>	Peppermint	4	Bard	1	Shade and moisture; perennial
<i>Musa</i> species	Banana	3	Desert City, El Centro, Palm Springs	2	Needs wind protection; perennial
<i>Pennisetum ruppelii</i>	Fountain grass	4	Holtville	1	Purplish flower-head; perennial
<i>Phyla nodiflora</i> (<i>Lippia repens</i>)	Creeping lippia	4	Bard	1	Flowering ground cover; perennial
<i>Phyllostachys aurea</i>	Yellow bamboo	3	El Centro, Needles, Palm Springs	1	Slender stems; variegated leaves; perennial
<i>Phyllostachys bambusoides</i>	Giant bamboo	4	Bard	1	Heavy stems; perennial
<i>Ricinus communis</i>	Castor bean	1		1	Various leaf colors; perennial; seeds are poisonous
<i>Rosa</i> species	Roses	1		1	Bush and climbers; many varieties
<i>Vinca rosea</i>	Periwinkle	1		1	Perennial

Grow Satisfactorily in Low-elevation Desert Environment (Concluded)

Drought resistance	Height							Growth habit							Foliage color							Frost tolerance			
	6"-1'	1'-3'	3'-6'	6'-12'	12'-30'	30'-50'	50' and over	Spreading	Round topped	Pyramidal	Slender	Dense	Open	Sparse	Weeping	Light green	Medium green	Dark green	Gray	Blue	Bronze	Purple	Tender	Semihardy	Hardy
3		X	X									X						X							X
3		X	X									X				X									X
2	X							X				X					X								X
2					X						X	X				X									X
3		X	X														X								X
3		X	X													X	X	X			X	X			X
3			X														X	X					X		
2				X							X	X				X			X						X
2				X					X		X						X								X
3		X	X								X						X								X
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LIST II—Plants Reliably Reported to Grow in Low-elevation Desert Areas of California

CONIFEROUS TREES AND SHRUBS

SCIENTIFIC NAME	COMMON NAME
<i>Cupressus forbesii</i> (4)	Tecate, or Forbes cypress
<i>Juniperus deppeana pachyphloea</i> (4)	Silver alligator juniper
<i>Pinus sabiniana</i> (5)	Digger pine

PALMS

<i>Erythea armata</i> (4)	Mexican blue palm
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EVERGREEN TREES

<i>Acacia melanoxydon</i> (3)	Blackwood acacia
<i>Eucalyptus crebra</i> (3)	Narrow-leaved iron bark
<i>Pithecellobium dulce</i> (4)	Manila tamarind
<i>Pittosporum phylliraeoides</i> (4)	Weeping pittosporum

DECIDUOUS TREES

<i>Acer negundo</i> (1)	Box-elder
<i>Celtis australis</i> (1)	Hackberry
<i>Koelreuteria paniculata</i> (3)	Goldenrain tree
<i>Malus floribunda</i> (5)	Flowering crabapple
<i>Salix laevigata</i> (3)	Red willow
<i>Sophora japonica</i> (1)	Japanese pagoda tree

EVERGREEN SHRUBS OR SMALL TREES

<i>Acacia armata</i> (3)	Kangaroo thorn
<i>Acacia cultriformis</i> (4)	Knife acacia
<i>Acacia latifolia</i> (5)	Acacia
<i>Acacia longifolia</i> (3)	Sydney golden wattle
<i>Acacia podalyriaefolia</i> (4)	Pearl acacia
<i>Adenocarpus viscosus</i> (1)	Sticky flatpod
<i>Camellia</i> species (5)	Camellia
<i>Cistus</i> species (1,4)	Rock rose
<i>Coprosma baueri</i> (5)	Mirror plant
<i>Cotoneaster lactea</i> (5)	Cotoneaster
<i>Cytisus</i> species (1,2,3)	Broom
<i>Diosma ericoides</i> (1)	Breath of heaven
<i>Erica canaliculata</i> (1)	Heather
<i>Eucalyptus globulus compacta</i> (5)	Dwarf blue gum
<i>Fremontia mexicana</i> (3)	Mexican fremontia
<i>Genista</i> species (1)	Broom
<i>Hakea</i> species (1)	Hakea
<i>Ilex cornuta</i> (5)	Chinese holly
<i>Ilex cornuta burfordii</i> (5)	Burford holly
<i>Jasminum sambac</i> (1)	Arabian jasmine
<i>Lavandula officinalis</i> (1)	Lavender
(<i>L. spica</i>)	
<i>Lavatera assurgentiflora</i> (3)	Tree mallow
<i>Leonotis leonurus</i> (1)	Lions ear
<i>Mahonia nevinii</i> (1)	Nevins mahonia
<i>Malvastrum capense</i> (1)	Cape mallow
<i>Phillyrea latifolia</i> (1)	Tree phillyrea
<i>Pyrus kawakamii</i> (5)	Evergreen pear
<i>Santolina chamaecyparissus</i> (1)	Lavender-cotton
<i>Teucrium</i> species (1)	Germander
<i>Viburnum opulus nanum</i> (3)	Snowball

DECIDUOUS SHRUBS

<i>Prunus glandulosa</i> (1)	Flowering almond
<i>Rhamnus</i> species (1)	Coffee berry
<i>Robinia hispida</i> (1)	Rose acacia

VINES

<i>Calonyction</i> species (3)	Moonflower
<i>Cardiospermum halicacabum</i> (3)	Balloon vine
<i>Dolichos lignosus</i> (1)	Australian pea
<i>Lathyrus latifolius</i> (3)	Perennial sweet pea
<i>Lathyrus odoratus</i> (3)	Sweet pea (annual)
<i>Muehlenbeckia complexa</i> (1)	Wire vine
<i>Phaseolus coccineus</i> (3)	Scarlet runner (annual)
<i>Pueraria thunbergiana</i> (<i>P. hirsuta</i>) (1)	Kudzu vine
<i>Quamoclit pennata</i> (3)	Cypress vine (annual)
<i>Thunbergia</i> species (3)	Clock vine (annual)
<i>Tropaeolum peregrinum</i> (3)	Canarybird vine
<i>Vitis arizonica</i> (3)	Canyon grape

LIST III—Plant Materials Suggested for Experimental Trial in Low-elevation Desert Areas

CONIFEROUS TREES AND SHRUBS

SCIENTIFIC NAME	COMMON NAME
<i>Callitris calcarata</i> (6)	Black cypress-pine
<i>Callitris robusta</i> (6)	White cypress-pine
<i>Juniperus procera africana</i> (6)	Dwarf African juniper
<i>Libocedrus decurrens</i>	Incense cedar

EVERGREEN TREES

<i>Acacia decurrens mollis</i> (6)	Black wattle
<i>Brachychiton rupestris</i> (6)	Bottle tree
<i>Cassia brewsteri</i> (6)	Cigar cassia
<i>Celtis sinensis</i>	Chinese hackberry
<i>Eucalyptus lehmannii</i> (6)	Bushy yate
<i>Eucalyptus leucoxydon rosea</i> (6)	Pink-flowered whitewood
<i>Eucalyptus melliodora</i> (6)	Yellow box
<i>Eucalyptus platypus</i>	Round-leaf moort
<i>Eucalyptus populifolia</i> (6)	Bimble box
<i>Geijera parviflora</i>	Wilga
<i>Gyrostemon cotinifolius</i> (6)	Bell-fruit tree
<i>Melaleuca styphelioides</i> (6)	Prickly paperbark
<i>Phytolacca dioica</i>	Umbu tree
<i>Stenochilus longifolius</i> (6)	Berrigen

DECIDUOUS TREES

<i>Albizia lebbbeck</i>	Womans-tongue
<i>Broussonetia papyrifera</i>	Paper mulberry
<i>Zelkova serrata</i>	Japanese zelkova

EVERGREEN SHRUBS OR SMALL TREES

<i>Acacia accola</i> (6)	Golden glory wattle
<i>Acacia acinacea</i> (6)	Gold-dust wattle
<i>Acacia aneura</i> (6)	Mulga
<i>Acacia bynoeana</i> (6)	Dwarf nealie
<i>Acacia calamifolia</i> (6)	Wallowa
<i>Acacia drummondii</i> (6)	Drummond wattle
<i>Acacia myrtifolia</i> (6)	Myrtle wattle

SCIENTIFIC NAME	COMMON NAME
<i>Acacia pubescens</i> (6)	Downy wattle
<i>Acacia salicina</i> (6)	Willow wattle
<i>Acacia spectabilis</i> (6)	Mudgee wattle
<i>Adenocarpus foliosus</i>	Canary Island lupine
<i>Albizia distachya</i> (<i>A. lophantha</i>) (6)	Cape wattle
<i>Aleurites fordii</i> (6)	Tung oil tree
<i>Angophora cordifolia</i> (6)	Dwarf apple-myrtle
<i>Anisacanthus wrightii</i> (8)	Wright anisacanth
<i>Artemisia abrotanum</i> (8)	Oldman wormwood
<i>Atriplex</i> species	Saltbush
<i>Baeckia ramosissima</i> (6)	Rosy heath-myrtle
<i>Baeckia virgata</i> (6)	Twiggy heath-myrtle
<i>Banksia ericifolia</i> (6)	Heath banksia
<i>Banksia marginata</i> (6)	Silver banksia
<i>Banksia ornata</i> (6)	Desert banksia
<i>Banksia serrata</i> (6)	Saw banksia
<i>Berberis sargentiana</i> (6)	Sargent barberry
<i>Brachysema lanceolatum</i> (6)	Swan River pea-bush
<i>Buddleja salvifolia</i> (6)	Winter buddleia
<i>Calliandra criophylla</i>	Hairy-leaved calliandra
<i>Callicarpa</i> species (8)	Beautyberries
<i>Callistemon brachyandros</i> (6)	Prickly bottle-brush
<i>Callistemon phoenicens</i> (6)	Fiery bottle-brush
<i>Callistemon salignus</i> (6)	Willow bottle-brush
<i>Callistemon speciosus</i> (6)	Showy bottle-brush
<i>Callistemon teretifolius</i> (6)	Bearded bottle-brush
<i>Calocephalus brownii</i> (6)	Cushion bush
<i>Calothamnus gilesii</i> (6)	Giles net-bush
<i>Calothamnus quadrifidus</i> (6)	Crimson-cluster net-bush
<i>Calothamnus villosus</i> (6)	Woolly net-bush
<i>Cantua buxifolia</i> (6)	Flower of the Incas
<i>Cassia corymbosa</i> (7)	
<i>Cassia didymobotrya</i> (7)	
<i>Cassia eremophila</i> (6)	Desert cassia
<i>Cassia laevigata</i> (6)	Smooth cassia
<i>Cassia sturtii</i> (6)	Dense cassia
<i>Cassia tomentosa</i> (6)	Woolly cassia
<i>Ceanothus edwardsii</i> (6)	Edward ceanothus
<i>Cestrum</i> species (7)	
<i>Cienfugosia hakeaefolia</i> (6)	Red-throat hibiscus
<i>Coprosma retusa</i> (6)	Looking-glass plant
<i>Cotoneaster acutifolia</i> (8)	Peking cotoneaster
<i>Cotoneaster divaricata</i> (8)	Spreading cotoneaster
<i>Cotoneaster glaucophylla serotina</i> (6)	Late cotoneaster
<i>Cotoneaster microphylla</i> (6)	Rockspray cotoneaster
<i>Cotoneaster multiflora</i> (8)	Multiflora cotoneaster
<i>Crotalaria agatiflora</i> (7)	Canary bird bush
<i>Cuphea micropetala</i> (7)	Cigar bush
<i>Cowania stansburiana</i> (8)	Cliffrose
<i>Dalea</i> species (8)	Dalea
<i>Dampiera rosmarinifolia</i> (6)	Rosemary dampiera
<i>Dryandra mucronulata</i> (6)	Swordfish dryandra
<i>Echium fastuosum</i> (7)	Pride-of-Madeira
<i>Echium virescens</i> (6)	Madeira vipers bugloss
<i>Eremophila macklinayi</i>	Desert pride
<i>Eremophila oppositifolia</i> (6)	Twin-leaf emu bush
<i>Erica lusitanica</i> (6)	Spanish heath
<i>Erica mediterranea</i> (6)	Biscay heath
<i>Eriostemon myoporoides</i> (6)	Long-leaf waxflower
<i>Eriostemon obovalis</i> (6)	Fairy waxflower

SCIENTIFIC NAME	COMMON NAME
<i>Escallonia macrantha</i> (7)	
<i>Eucalyptus burdettiana</i> (6)	Burdette gum
<i>Eucalyptus calycogona</i> (6)	Red mallee
<i>Eucalyptus concinna</i> (6)	Victoria desert mallee
<i>Eucalyptus crucis</i> (6)	Silver mallee
<i>Eucalyptus desmondensis</i> (6)	Desmond mallee
<i>Eucalyptus dumosa angulosa</i>	Congoo mallee
<i>Eucalyptus eremophila</i> (6)	Tall sand mallee
<i>Eucalyptus erythrocorys</i> (6)	Red-cap gum
<i>Eucalyptus forrestiana</i> (6)	Forrest marlock
<i>Eucalyptus grossa</i> (6)	Phillips river gum
<i>Eucalyptus kruseana</i> (6)	Kruse mallee
<i>Eucalyptus lansdowniana</i> (6)	Crimson mallee box
<i>Eucalyptus mitrata</i> (6)	Mitre gum
<i>Eucalyptus nutans</i> (6)	Nodding gum
<i>Eucalyptus oldfieldii</i> (6)	Oldfield gum
<i>Eucalyptus preissiana</i> (6)	Bell-fruit mallee
<i>Eucalyptus pyriformis</i> (6)	Ooldea mallee
<i>Eucalyptus steedmanii</i> (6)	Steedman gum
<i>Eucalyptus stricklandii</i> (6)	Strickland gum
<i>Eucalyptus tetraptera</i> (6)	Four-wing gum
<i>Eucalyptus torquata</i> (6)	Coolgardie gum
<i>Eucalyptus viridis</i> (6)	Green mallee
<i>Eutaxia microphylla</i> (6)	Small-leaf eutaxia
<i>Forestiera neo-mexicana</i> (8)	New Mexican forestiera
<i>Fuchsia</i> species (6)	Fuchsia
<i>Gompholobium huegelii</i> (6)	Pale wedge-pea
<i>Gompholobium latifolium</i> (6)	Broad wedge-pea
<i>Goodia lotifolia</i> (6)	Goldentip
<i>Grevillea alpestris</i> (6)	Goldfields grevillea
<i>Grevillea alpina</i> (6)	Mountain grevillea
<i>Grevillea aquifolia</i> (6)	Prickly grevillea
<i>Grevillea hookeriana</i> (6)	Toothbrush grevillea
<i>Grevillea ilicifolia</i> (6)	Holly grevillea
<i>Grevillea lavandulacea</i> (6)	Lavender grevillea
<i>Grevillea macrostylis</i> (6)	Mount Barren grevillea
<i>Grevillea pterosperma</i> (6)	Desert grevillea
<i>Grevillea rosmarinifolia</i> (6)	Rosemary grevillea
<i>Grevillea thelemanniana</i> (6)	Spider-net grevillea
<i>Grevillea wilsonii</i> (6)	Wilson grevillea
<i>Hakea cucullata</i> (6)	King hakea
<i>Hakea elliptica</i> (6)	Oval-leaf hakea
<i>Hakea sulcata</i> (6)	Furrowed hakea
<i>Hakea undulata</i> (6)	Wavy-leaf hakea
<i>Hakea vittata</i> (6)	Striped hakea
<i>Halimium</i> species (6)	
<i>Hardenbergia monophylla fruticosa</i> (6)	Shrubby coral pea
<i>Hebe salicifolia</i> (6)	Willow-leaf Hebe
<i>Hebe salicifolia variegata</i> (6)	Variegated willow-leaf Hebe
<i>Helichrysum cordatum</i> (6)	Heart-leaf everlasting
<i>Helichrysum elatum</i> (6)	Tall everlasting
<i>Helichrysum thyrsoideum</i> (6)	Cascade everlasting
<i>Hibbertia linearis</i> (6)	Showy guinea flower
<i>Hibbertia sericea</i> (6)	Silky guinea flower
<i>Hovea celsii</i> (<i>H. elliptica</i>) (6)	Oval-leaf hovea
<i>Hovea longifolia lanceolata</i> (6)	Lance-leaf hovea
<i>Hypericum calycinum</i> (6)	
<i>Indigophora australis</i> (6)	Australian indigo
<i>Iochroma tubulosum</i> (7)	
<i>Isopogon roseus</i> (6)	Rose conebrush

SCIENTIFIC NAME	COMMON NAME
<i>Jacksonia floribunda</i> (6)	Holly pea
<i>Kunzea ambigua</i> (6)	White kunzea
<i>Kunzea parvifolia</i> (6)	Crimson kunzea
<i>Lambertia formosa</i> (6)	Port Jackson honey-flower
<i>Lasiopetalum behrii</i> (6)	Pink velvet bush
<i>Leptospermum rotundifolium</i> (6)	Round-leaf tea tree
<i>Leptospermum scoparium</i> (6,7)	Tea tree
<i>Lespedeza bicolor</i> (8)	Shrub lespedeza
<i>Leucopogon biflorus</i> (6)	Twin-flower beard-heath
<i>Leucopogon virgatus</i> (6)	Common beard-heath
<i>Lissanthe strigosa</i> (6)	Peach-heath
<i>Melaleuca decussata</i> (6)	Cross honey-myrtle
<i>Melaleuca elliptica</i> (6)	Granite honey-myrtle
<i>Melaleuca fulgens</i> (6)	Scarlet honey-myrtle
<i>Melaleuca hypericifolia</i> (6)	Hillock bush
<i>Melaleuca lateritia</i> (6)	Robin redbreast bush
<i>Melaleuca longicoma</i> (6)	Long-claw paperbark
<i>Melaleuca nesophila</i> (6)	Western tea-myrtle
<i>Melaleuca nodosa</i> (6)	Jointed honey-myrtle
<i>Melaleuca radula</i> (6)	Graceful honey-myrtle
<i>Melaleuca scabra</i> (6)	Rough honey-myrtle
<i>Melaleuca steedmanii</i> (6)	Steedman honey-myrtle
<i>Melaleuca thymifolia</i> (6)	Thyme honey-myrtle
<i>Melaleuca wilsonii</i> (6)	Wilson honey-myrtle
<i>Melianthus major</i> (6)	Large honey-flower
<i>Micromyrtus ciliatus</i> (6)	Fringed heath-myrtle
<i>Myoporum debile</i> (6)	Amulla
<i>Myoporum desertii</i> (6)	Turkey bush
<i>Myoporum montanum</i> (6)	Water bush
<i>Nitraria schoberi</i> (6)	Nitre bush
<i>Olearia myrsinoides</i> (6)	Silky daisy-bush
<i>Perovskia atriplicifolia</i> (8)	Russian-sage perovskia
<i>Persoonia juniperina</i> (6)	Prickly geebung
<i>Persoonia linearis</i> (6)	Narrow-leaf geebung .
<i>Phebalium stenophyllum</i> (6)	Narrow-leaf phebalium
<i>Pholidia gibbifolia</i> (6)	Scaled emu bush
<i>Pimelea axiflora</i> (6)	Tough rice-flower
<i>Pimelea flava</i> (6)	Yellow rice-flower
<i>Pimelea octophylla</i> (6)	Downy rice-flower
<i>Pimelea rosea</i> (6)	Pink rice-flower
<i>Pimelea spectabilis</i> (6)	Banjine rice-flower
<i>Pittosporum crassifolium</i> (6)	Silver karo
<i>Podalyria sericea</i> (6)	Silky podalyria
<i>Polygala apopetala</i>	
<i>Polygala myrtifolia</i> (6)	Myrtle-leaf milkwort
<i>Pomaderris lanigera</i> (6)	Woolly pomaderris
<i>Prostanthera aspalathoides</i> (6)	Scarlet mint-bush
<i>Prostanthera nivea</i> (6)	Snowy mint-bush
<i>Prostanthera ovalifolia</i> (6)	Oval-leaf mint-bush
<i>Pultenaea daphnoides</i> (6)	Large-leaf bush-pea
<i>Pultenaea scabra</i> (6)	Rough bush-pea
<i>Rhamnus alaternus</i> (6)	European rhamnus
<i>Rhus microphylla</i> (8)	Little-leaf sumac
<i>Royena lucida</i> (6)	Shiny royena
<i>Salvia ballotaeflora</i> (8)	Shrubby blue sage
<i>Salvia microphylla</i> (s. <i>grahamii</i>) (6)	Graham sage
<i>Salvia greggii</i> (8)	Autumn sage
<i>Scholtzia oligandra</i> (6)	Pink scholtzia
<i>Solanum pseudo-capsicum</i> (6)	Jerusalem cherry
<i>Spyridium parvifolium</i> (6)	Australian dusty miller

SCIENTIFIC NAME	COMMON NAME
<i>Stenochilus glaber</i> (6)	Dwarf emu bush
<i>Stenochilus maculatus</i> (6)	Spotted emu bush
<i>Stranvaesia davidiana</i> (6)	Low stranvaesia
<i>Styphelia adscendens</i> (6)	Golden heath
<i>Swainsona galegifolia</i> (6)	Goatsrue Swainson pea
<i>Swainsona greyana</i> (6)	Darling pea
<i>Swainsona procumbens</i> (6)	Pretty Swainson pea
<i>Tamarix hispida</i> (8)	Kashgar tamarix
<i>Templetonia retusa</i> (6)	Red templetonia
<i>Tetratheca ciliata</i> (6)	Pinkeye
<i>Tetratheca pilosa</i> (6)	Hairy pinkeye
<i>Teucrium chamaedrys</i> (8)	Chamaedrys germander
<i>Thevetia thevetioides</i>	Large-flowered thevetia
<i>Thryptomene calycina</i> (6)	Bushy thryptomene
<i>Ugni molinae</i> (6)	Chile guava
<i>Vauquelinia californica</i> (8)	Arizona rosewood
<i>Zieria aspalathoides</i> (6)	Heath zieria
<i>Zieria veronicae</i> (6)	Pink zieria

DECIDUOUS SHRUBS

SCIENTIFIC NAME	COMMON NAME
<i>Berberis aggregata</i> (6)	Salmon barberry
<i>Berberis rubrostilla</i> (6)	Scarlet bead barberry
<i>Berberis wilsoniae</i> (6)	Wilson barberry
<i>Caryopteris incana</i> (8)	Common bluebeard
<i>Colutea arborescens</i> (6,8)	Bladder senna
<i>Colutea cilicica</i> (8)	Bladder senna
<i>Fontanesia fortunei</i> (8)	Fortune fontanesia
<i>Rhamnus frangula</i> (8)	Glossy buckthorn

VINES

<i>Hardenbergia violacea</i> (<i>H. monophylla</i>) (6)	Purple coral-pea
<i>Kennedyia nigricans</i> (6)	Black coral-pea
<i>Kennedyia rubicunda</i> (6)	Dusky coral-pea
<i>Pandorea pandorana</i> (6)	Wonga vine
<i>Pandorea jasminoides</i> (6)	Bower-of-beauty
<i>Passiflora manicata</i> (6)	Red passion-flower
<i>Passiflora mollissima</i> (6)	Banana passion-fruit
<i>Podranea brycei</i> (7)	Zimbabwe creeper
<i>Podranea ricasoliana</i> (6)	Pink tecoma
<i>Senecio tamoides</i> (7)	Canary creeper
<i>Solanum jasminoides</i> (7)	White potato vine
<i>Sollya fusiformis</i> (<i>S. heterophylla</i>) (6)	Bluebell creeper

MISCELLANEOUS

<i>Chrysanthemum frutescens</i> (6)	Marguerite
<i>Cordyline stricta</i> (6)	Erect palm lily
<i>Doryanthes excelsa</i> (6)	Globe spear lily
<i>Doryanthes palmeri</i> (6)	Palmer spear lily
<i>Euphorbia biglandulosa</i>	
<i>Euphorbia wulfenii</i> (6)	Wulfen spurge
<i>Felicia angustifolia</i> (6)	Lilac felicia
<i>Helichrysum cordatum</i> (6)	Heartleaf everlasting
<i>Limonium dicksonii</i> (6)	Pink statice
<i>Phlomis fruticosa</i> (6)	Jerusalem sage
<i>Ruscus aculeatus</i> (6)	Butcher's broom

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