# Ground Covers for Arizona Landscapes

> AZ1110 April 1999



### **Contents**

| Why Use a Ground Cover?         | . 3 |
|---------------------------------|-----|
| Caveats                         | . 3 |
| How to Select a Ground Cover    | . 3 |
| General Planting Instructions   | . 4 |
| Care of Established Plantings   | . 4 |
| Water                           | . 5 |
| Exposure                        | . 5 |
| Plant Climate (Hardiness) Zones | . 5 |
| Plant Climate Zone Map          | . 6 |
| Plant List                      | . 7 |
| Plant Name Cross Reference      | . 7 |

This information has been reviewed by university faculty.

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Ground covers are usually creeping, sprawling or clumping plants whose primary function is to cover the ground in man-made landscapes. They can also include low growing shrubs and perennials, if they spread to cover the area. Plants suitable for this use come in a wide range of shapes, sizes, textures and colors. Many bear attractive flowers that add seasonal beauty to their other good characteristics.

### Why Use a Ground Cover?

Ground covers fill a number of important design needs. They can form a low horizontal foliage mass that serves to organize or tie a planting together into a unified composition. They can soften and add a touch of greenery to the large rock-mulched areas so often seen in desert landscapes. Large expanses of paving also seem cooler and more interesting if beds of ground covers are occasionally substituted for sections of pavement. They cut glare, suppress dust, and prevent evaporative water loss. Ground covers are effective alone or in mixed plantings near one-story houses, surrounding tall office buildings, defining open spaces, and covering highway embankments.

From an engineering standpoint, ground covers that root along the ground as they grow can control erosion on steep slopes. They can also reduce the need for mowing turf on small or odd-shaped areas or on difficult banks or mounds. Because ground covers differ in the amount of foot traffic they tolerate without injury, they can direct pedestrian traffic around an area rather than inviting it as turf often does.

### Caveats

Ground covers are rarely maintenance-free, however. Gardeners who are unfamiliar with the general growth characteristics of ground covers may expect these plants to provide a permanent foliage cover once the planting has filled in. Unfortunately, this is often not the case. Within two to four years many ground cover beds will develop bare spots or areas of sparse open foliage. This may be due to weather, cultural practices, pests or the gradual change from vigorous young leafy plants to older tougher less densely foliaged plants.

As a result, most ground cover plantings do require regular care and refurbishing to keep them dense and vigorous. In addition to proper irrigation, fertilization, and pest control, this may involve replanting bare spots and pruning old stems to stimulate new growth. Nevertheless, some experts feel that 5 years is the maximum life span of a groundcover in the lower Sonoran Desert areas (Phoenix, Yuma, etc).

### How to Select a Ground Cover

Three basic questions should be considered when selecting a ground cover:

- Will this plant create the desired landscape effect? (Consider mature height, growth habit and growth rate, texture, color, bloom period, year-round appearance, etc.)
- Will this plant grow well on the site? (Consider soil type, topography, soil and air drainage, light exposure, seasonal high and low temperatures.)
- Will this plant make an attractive ground cover with the maintenance I can provide? (Consider irrigation and fertilization requirements, pruning, cleaning, pest control, life span and replacement needs.)

The following tables list some of the most useful ground cover species for southern Arizona as well as their landscape uses and cultural requirements. Several precautions should be observed in selecting plants from this list.

- Do not choose rampant growing types like Honeysuckle or Algerian Ivy for small or narrow spaces.
- Do not choose a high-maintenance type where low maintenance is desired.
- Do not assume that edgers and weed eaters will keep a vigorous species in bounds.
- Use types under trees that can absorb tree leaves without the need for raking.
- For erosion control purposes, select ground covers that root as they spread since these are more effective than mat-forming sorts.

Other important considerations include the following: Does the species tends to attract trash or debris (by means of thorns or spines or shaggy bark)? Will other plants on the site need care (pruning, etc) with which the ground cover will interfere?

Many ground covers have an off-season for growth and appearance. Since they are frequently used in a prominent position in the foreground, it is best to select the toughest plant available that looks attractive for the longest period. Whenever possible, select a ground cover that is frost-hardy in your area or at least a species that recovers quickly from cold injury. Note the discussion of the plant hardiness zones, and see the attached Arizona map.

### **General Planting instructions**

The best planting times are mid-fall and early spring. Plants set out in either season will develop a good root system before the stress of hot summer weather.

Ground covers are often used in areas where growing conditions are less than ideal. They may be planted on steep dry slopes in full sun or deep shade. In addition, most types grow close to the ground where they are exposed to a microclimate of exaggerated heat or cold. This makes good soil preparation important to plant establishment and growth.

### Soil preparation

Start bed preparation a week or so before you plan to plant. It is not necessary to add soil amendments if you've chosen a species that is adapted to alkaline soils and relatively low fertility. Do work the soil to a depth of 12", removing caliche, rocks or debris.

Plan to mulch the area after planting with 3" of bark (which will eventually break down and improve soil structure and nutrition) or 1-2" of decomposed granite. Water the cleaned bed to a depth of 12" several days before planting.

Space ground cover plants in a new bed so that they will cover the site in one or two growing seasons, and yet have room to expand to full size. Closer spacing can reduce weed control problems and usually results in a smoother cover, but by the third year, the plants may be overcrowded.

Set the plants at the same depth as they were growing in the container and firm backfill soil around the roots without crushing the rootball. On banks and slopes, plant slightly higher than grade, leaving a shallow basin on the downhill side of each plant to catch irrigation/rain water.

In the mid to low desert parts of Arizona, bermudagrass is a prime cause of failure in planting and maintaining ground cover beds. It is not impossible to control if the bed can be kept clean until a solid planting exists. Bermudagrass is less likely to invade once ground covers fill in the bare spaces between plants. Chemical herbicides are available for establishing a relatively weed-free planting site. (In most cases however, two or more treatments must be made during summer to rid an area of existing bermudagrass. This must be considered in deciding when to set out a new bed in a bermudagrass area. More information under "Weeding.")

## Watering the new plants

Tender young ground cover nursery stock dies quickly if allowed to dry out on the planting site. It is important that plants be watered thoroughly a short time before being removed from growing containers and placed in the ground. Irrigate the cultivated bed area several days before planting so that the transplants will be set out in moist soil. Since it may take several hours or

longer to complete the planting operation, the first plants set out may be dry before the job is finished, especially on a warm, windy day. To prevent such losses, stop at regular intervals to water transplants. A mulch of coarse bark, wood chips, or other mulch materials over the finished bed will keep the ground cooler, conserve moisture and discourage weeds.

Young ground cover plants are shallow rooted and may need watering every 2 or 3 days for the first two to four weeks after planting. When established, the same plants may require watering every 5 to 10 days in hot dry weather, but only every 3 to 6 weeks in the winter if natural precipitation has been less than normal.

### **Care of Established Plantings**

### **Irrigation**

Many gardeners attempt to establish dense ground cover plantings in desert landscapes that receive little or no irrigation. This is nearly impossible to accomplish, even with drought-tolerant species. The nature of the desert is such that vegetation is scattered with areas of open ground in between. Low water-use ground covers will assume a similar growth pattern if they must survive and grow with natural precipitation only. So supplemental irrigation is required for a solid foliage cover even with arid plant types.

There are several irrigation systems that will work efficiently to provide water to a ground cover bed that's level or on a slight incline. Soaker hoses, drip irrigation, or micro-sprays will keep the water near the soil level — not on the foliage. Whatever the system used, apply water only as rapidly as the soil will absorb it. It may be necessary to irrigate for several brief periods with time between each cycle to moisten the entire root zone without wasteful surface run-off. The watering schedule should be separate from the turf schedule.

Watering ground covers on slopes often includes surface run-off and poor infiltration of moisture to the depth of plant roots. A drip irrigation system is perhaps the most efficient way to water ground covers on slopes.

### Weeding

Bermudagrass often invades ground cover beds in summer when outdoor gardening activity is reduced. Once well-established, this aggressive grass is difficult to eradicate without also destroying part or all of the ground cover. Removing even small infestations from tender brittle ground cover species is impractical because of the difficulty in getting out on the bed without damaging plants. This is why it is so important to eliminate bermudagrass before planting a new bed. There are several chemical means to control grasses in broadleaf groundcover beds. Mulch at least 2" deep will help slow down grass invasion. Check established plantings regularly for the appearance of bermudagrass and take immediate steps to get rid of any that is found.

### **Fertilizing**

Since ground cover plants grow in close competition for nutrients, they should be fertilized regularly to maintain good leaf color, yet moderate growth. Overfertilization results in excessive growth that requires more work to maintain and keep presentable. Fertilize established ground cover planting at least once each year in late winter or early spring. A second application in early fall may be needed to maintain good color and growth, though the resultant lush growth is more susceptible to frost damage.

Nitrogen is usually the key element which must be supplied. The percent by weight of nitrogen in a fertilizer is indicated by the first number in the analysis, such as 20–10–5, 16–20–0, etc. This information is printed somewhere on the fertilizer bag. A typical fertilizer recommendation for mature ground covers is two pounds of ammonium sulfate (21–0–0) or other garden fertilizer of similar nitrogen content per 100 square feet. Apply the fertilizer uniformly when the foliage is dry. Then water thoroughly to wash off any fertilizer particles lodged in the plant foliage and to move the nutrients into the plant root zone.

### **Pruning and Deadheading**

Ground covers are generally more attractive if pruned back each year in late winter or early spring. Wait till danger of frost is over before cutting back tender species. The appearance of the planting will usually serve as a guide for scheduling pruning work. To encourage a ground cover bed to recover quickly fertilize and irrigate after pruning is done.

Rapid-growing types may need trimming two or three times during the growing season. The need for artificially shearing a planting can be an indication of the wrong plant in the wrong place! If a plant continues to over-run a sidewalk area, remove it and allow more space for neighboring plants, rather than repeatedly edging the offending plant.

Flowering species will continue to bloom if the spent flowers or seed pods are removed. This procedure is called deadheading. In other cases, the flowers or fruits could attract wildlife that may invade the bed. Although this deadheading chore can be difficult and time-consuming, ground cover growth and vigor will be improved.

Explanation of cultural requirements used in the ground cover tables:

### Water

**Heavy** – Plants thrive in or adjoining lawn conditions which infers that upper root zone is kept moderately moist at all times.

**Medium** – Plants thrive with deep irrigations spaced 7-14 days apart depending on season and type. Surface layer of soil may dry out but adequate moisture levels are always maintained in deeper root zones.

**Light** – Plants tolerate long dry periods but must be watered deeply on an occasional basis to grow or develop. This group includes most of the true desert trees and shrubs. Poor drainage often causes problems for these plants.

### **Exposure**

**Shade** – Area receives no direct sunlight such as under a roof or dense tree canopy. There is a range between deep shade such as under a solid roof and open shade - for example the situation found on the shadow side of a tall building where the sun never penetrates and yet there is open sky above.

Partial shade — Situation under trees where there is a dappled sun and shade light pattern or a situation where there are a few hours of sunlight early or late in the day. Late afternoon sun is more intense and is usually accompanied by a heat build-up. Plant requiring part shade often do not thrive in such a situation.

Full sun — Area receives direct unobstructed sunlight for more than a half of a day. There is a range between direct sun and reflected sun where planting areas close to walls facing south or west are much hotter. These situations may limit the use of certain plants which are sensitive to reflected heat.

### Plant Climate (Hardiness) Zones

In the following plant descriptions, three climate zones are used to give some idea of species adaptation based on cold hardiness. Communities in each zone might vary slightly from one another. Plants considered marginal for the zone seldom survive in the cooler sites except in very protected locations. Within the zone, those communities with milder climates allow the marginal plants to be grown with reasonable success. Remember too, that these climate zones grade into one another near their boundaries, with a corresponding effect on plant-performance.

Experienced desert gardeners know that microclimate effects (elevation, exposure, air drainage, heat radiation from buildings and paving, etc.) can create a significantly cooler or warmer environment for plants. The microclimates found within your own landscape may determine whether or not you can grow a given tree or shrub in a particular location.

### Zone 3

**High Altitude Desert** – (Elevation 3,500-5,000 feet) (typical minimums: O to 10° F) Point-of-reference communities: Benson, Bisbee, Clifton, Douglas, Globe, Kingman, Natural Bridge, Nogales, Sedona, Sierra Vista, Tombstone.

### Zone 4:

**Mid-Altitude Desert** – (Elevation 2,000-3,500 feet) (typical minimums: 10 to 20° F) Point-of-reference communities: Ajo, Safford, Tucson, Wickenberg.

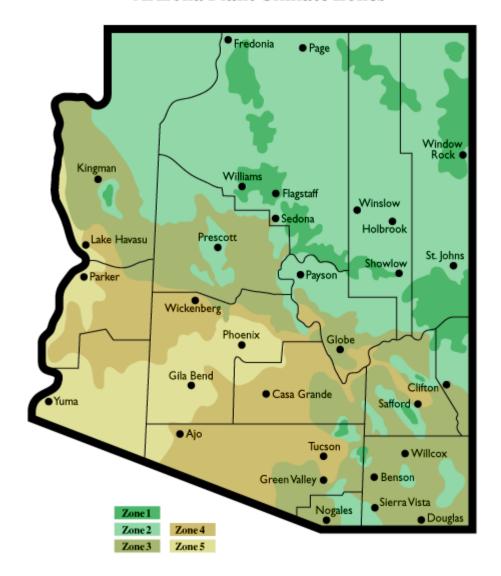
### Zone5:

**Low Altitude Desert** – (Elevation 1,000-2,000 feet) (typical minimums: 20 to 30° F) Point-of-reference communities: Buckeye, Casa Grande, Chandler, Florence, Gila Bend, Parker, Phoenix, Yuma.

X = Hardy

**M** = Marginal but recovers quickly from frost injury

# **Arizona Plant Climate Zones**



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| Plant name and   | 15kz   | Confinents  | Height  | Growth re         | Plantin | Hardine:      | right ex | Mater                    |
| Acacia redolens PROSTRATE ACACIA Low growing, prostrate arching shrub with dull gray-green foliage. Yellow   | Erosion control<br>on slopes, level<br>areas                                 | Cultivars vary widely in<br>height. Can collect trash   | 1-3'    | Fast              | 5'-8'   | 4X, 5X        | ***      | <b>&amp; &amp;</b>       |
| Ajuga reptens CARPET BUGLE  Shiny green or copper foliage; erect spikes of deep blue blossoms in spring.   | Small spaces in<br>partial sun or<br>shady nooks,<br>mini-oasis in<br>Zone 4 | Not a sun lover in the desert. Subject to root knot nematodes, fungus where drainage is poor. Shallow rooted, requires regular watering.  | 1'      | Slow              | 1'      | 3X, 4X        | **       | <b>\$ \$ \$</b>          |
| Asparagus densiflorus 'Sprengeri' SPRENGER ASPARAGUS  Arching trailing stems. Light green needle-like foliage, red berries.  | Level areas, low<br>banks, planter<br>boxes, hanging<br>pots                 | Partial shade, chlorotic<br>in full sun near lawns;<br>for lush green growth<br>can be cut to ground in<br>early spring or after<br>freezing.   | 1' - 2' | Medium            | 2'      | 3M, 4X,<br>5X | ***      | <b>\$ \$ \$</b>          |
| Atriplex semibaccata AUSTRALIAN SALTBUSH  Dense, low-growing shrub with grey-green foliage   | Desert shrub and ground cover  | Fire resistant, erosion control. Stands alkaline soil; reseeds or naturalizes. Prone to fungus in dense mature plantings.   | 1' - 2' | Slow              | 3' - 4' | 4X, 5X        | **       | ۵                        |
| Carpobrotus, Drosanthemum, Malephora, others ICE PLANT  Trailing succulent stems; fleshy green-grey leaves; orange, yellow or red daisy-like flowers in spring and summer. | Sunny slopes,<br>mounds and<br>beds  | Well drained soil;<br>drought resistant but<br>may freeze back in very<br>cold winter (Zone 3) or<br>dry down in summer<br>heat (Zone 5). No<br>traffic. Bermuda<br>invasions can be a<br>problem | < 1'    | Medium<br>to fast | 1'      | 3M, 4X,<br>5X | **       | <b>&amp; &amp; &amp;</b> |
| Baccharis x 'Centennial' DESERT BROOM HYBRID  Dense, ground hugging green-grey foliage   | Fairly dry areas;<br>beds, slopes,<br>desert landscapes                      | Prune once a year;<br>subject to damping off<br>in late summer. Allow<br>to dry between summer<br>irrigations.  | 2-3 ft  | Medium            | 3-4'    | 4X, 5X        | **       | ۵                        |

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| Plant Light   | Ne.  | Comments  | Height | Growth re | Planting         | Harding       | light ext | Nater              |
| Baileya multiradiata DESERT MARIGOLD  | Colorful desert<br>annual. Use in<br>naturalized areas.                | Long bloom period.<br>Reseeds itself but will<br>not make a solid cover                                     | 1'     | Medium    | scatter<br>seeds | 3X, 4X,<br>5X |           | <b>&amp; &amp;</b> |
| Soft, silvery grey foliage in a<br>clump, bright yellow<br>blossoms in spring                                     |  |   |        |           |                  |               | Ame .     |                    |
| Calylophus hartwegii CALYLOPHUS, SUN DROPS  | Small beds w/<br>shrubs and cacti                                      | Dormant in winter in colder areas. Good drainage a must.  | 1'     | Medium    | 3-4'             | 3X, 4X,<br>5X |           | <b>&amp; &amp;</b> |
| Many unbranched stems;<br>low growing, yellow<br>flowers at sunset in spring ,<br>summer. Spreads by<br>rhizomes. |  |   |        |           |                  |               |           |                    |
| Convolvulus mauritanicus GROUND MORNING GLORY   | Small beds,<br>slopes  | Tolerates dry, poor soil,<br>needs good drainage. Do<br>not overwater! Cut back<br>if it becomes too strag- | 1'     | Fast      | 3'               | 3X, 4X,<br>5X |           | <b>&amp; &amp;</b> |
| Low mounded mass of soft<br>green-grey foliage; lavender<br>blue trumpet shaped<br>flowers, spring to early fall. |  | gly. Blooms over a long<br>season, though is rarely<br>long-lived.  |        |           |                  |               |           |                    |
| Convolvulus cneorum BUSH MORNING GLORY  | Small beds,<br>slopes  | Tolerates dry, poor soil, needs good drainage.  | 2'     | Medium    | 4'               | 3X, 4X,<br>5X |           | <b>&amp; &amp;</b> |
| Low mounding bush with silvery foliage, white flowers w/yellow centers bloom spring and fall.                     |  |   |        |           |                  |               |           |                    |
| Cotoneaster glaucophyllus BRIGHT BEAD COTONEASTER   | Planter boxes<br>and beds, where<br>a low shrub mass<br>is needed, low | Tolerates heat and<br>drought, but needs<br>protection from worst<br>sun in Zone 5; Texas root              | 3'     | Medium    | 3'               | 3X, 4X,<br>5X |           | <b>&amp; &amp;</b> |
| Erect, arching growth;<br>oval, green-grey foliage;<br>flowers are pink followed<br>by many red fruits.           | borders and slopes   | rot a problem, particularly if planter is small and heats up.   |        |           |                  |               |           |                    |
| Dalea greggii<br>TRAILING INDIGO<br>BUSH  |  | Spreads rapidly where stems contact ground.   | 1.5'   | Fast      | 4' - 5'          | 4X, 5X        |           | ۵                  |
| Mounding low shrub.<br>Graceful arching stems, soft<br>gray foliage. Lavender<br>flowers in spring.               |  |   |        |           |                  |               |           |                    |

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| Plant cripi  | Ve <sup>5</sup>   | Comments   | Height  | Clonty                 | Plantin | Hardine       | /ight et | Nater                    |
| Dalea capitata GOLD DALEA  | Slopes, beds with shrubs  | Needs good drainage.<br>Not for deep shade.<br>Takes reflected heat.                     | 1'-2'   | fast                   | 4'      | 3X, 4X,<br>5X |          | <b>&amp; &amp; &amp;</b> |
| Low mounding form, fine<br>dark green leaves with<br>lemony scent, yellow<br>flowers in fall.  |   |  |         |                        |         |               |          |                          |
| Euonymus fortunei 'Colorata' PURPLE LEAF WINTERCREEPER   | Large beds and<br>slopes, good to<br>naturalize among<br>boulders; will | Foliage a little sparse in winter (Zone 3). Sensitive to full sun in low desert summers. | 2'      | Fast                   | 4'      | 3X, 4X        |          | 88                       |
| Mounding vine, dark green<br>foliage; foliage turning<br>reddish purple in winter  | climb masonry Newalls to  |  |         |                        |         |               |          |                          |
| Gazania hybrids CLUMPING GAZANIA   | Sunny beds and<br>borders, gentle<br>slopes                             | May need some refur-<br>bishing replacement<br>every fall; Prone to                      | 1'      | Fast                   | 1.5'    | 3M, 4X,<br>5X |          | ۵۵                       |
| Herbaceous perennial, grey-<br>green foliage in rosettes or<br>clumps. 2" daisy-like flowers<br>in a variety of colors, mostly<br>spring and fall. | Stopes  | fungus.  |         |                        |         |               |          |                          |
| Gazania rigens leucolaena<br>TRAILING GAZANIA  | Level beds and banks  | Needs good soil<br>drainage; subject to<br>damping off in late                           | 1'      | Fast                   | 2'      | 4M, 5X        |          | <b>\</b>                 |
| Gray creeping perennial;<br>daisy-like flowers, white,<br>yellow, orange, and bronze<br>blossoms spring and fall.                                  |   | summer. Mature<br>plantings should be<br>thinned annually.                               |         |                        |         |               |          |                          |
| Gelsemium sempervirens CAROLINA JESSAMINE  | Good in large<br>areas.   | Long and sprawling<br>stems, makes better<br>cover if pegged down;                       | 2' - 3' | medium                 | 4' - 6' | 3X, 4X,<br>5X |          | ۵۵                       |
| Twining woody vine; dark<br>green foliage; fragrant<br>tubular yellow flowers<br>spring through fall.  |   | may crawl over shrubs,<br>subject to chlorosis in<br>wet places.                         |         |                        |         |               |          |                          |
| Hedera canariensis ALGERIAN IVY  | Grows well in<br>large areas; will<br>cover walls &                     | Not a great choice.<br>Burns out in full sun.<br>Needs fertile well                      | 1'      | Me-<br>dium to<br>fast | 2'      | 3X, 4X,<br>5X |          | 88                       |
| Long runners; large, rich<br>green leaves, variegated<br>forms available   | fences  | drained soils. Will<br>damp off in heat.   |         |                        |         |               |          |                          |
|  |   |  |         |                        |         |               |          |                          |

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| Plant Lighte  | Veg.   | Confinents  | Height  | Clonithis         | Plantin | Harding       | right ex | Nater  |
| Hymenoxys acaulis ANGELITA DAISY  Small clumping gray-green pine-like foliage, yellow flowers   | Small areas,<br>borders  | Good for open spaces,<br>transition zone in<br>Xeriscapes. Blooms<br>nearly continuously.<br>Needs deadheading  | 1'      | Fast              | 2 - 3'  | 3X, 4X,<br>5X |          | <b>&amp; &amp;</b>   |
| Juniperus sp. (Many species and cultivars) PROSTRATE JUNIPER  Flat, prostrate or mounded growth habit depending on variety; dark to light bluegreen foliage                               | Banks, edging,<br>beds, planter<br>boxes   | Low types more vulnerable to Bermuda invasion. Do not use in small areas where edges must be excessively pruned — spoils its natural form. Likes to be washed off regularly, helps eliminate spider mite problems. Prone to sun damage in exposed locations Zone 5. | 2' - 3' | Medium            | 3' - 5' | 3X, 4X        |          |  |
| Lantana montevidensis TRAILING LANTANA Arching trailing branches; lavender flowers, clusters over long period   | Flat areas or<br>slopes  | Leaves die back 30<br>degrees F; stems hardier;<br>may give color all winter<br>in a protected location.<br>Cut back in early spring.<br>Responds well to iron.   | 1'      | Medium<br>to fast | 2'      | 3M,<br>4X, 5X |          | 88   |
| Lantana camara (several yellow and white cultivars) GOLD LANTANA  Prostrate form of bush lantana; horizontal stems, brilliant yellow flowers blooming intermittently spring through fall. | Flat areas or<br>slopes  | Hardier than trailing lantana, but enjoys severe pruning as growth starts in spring.  | 1' - 2' | Medium<br>to fast | 3' - 4' | 4X, 5X        |          | 8  |
| Liriope spicata CREEPING LILYTURF  Dense, grass-like ground cover; pale lilac-white flower; spikes barely taller than leaves.   | Part shade or<br>mini-oasis area.  | Not a great choice since<br>leaf tips often turn<br>brown in salty soil or<br>with low relative<br>humidity.  | 1'      | Medium            | 2'      | 3X, 4X,<br>5X | **       | 8  |
| Lonicera japonica 'Halliana' JAPANESE HONEYSUCKLE  Evergreen vine; fragrant tubular flowers, white changing to yellow in spring and summer  | Loose billowy<br>cover for banks<br>and steep slopes;<br>roots in as it<br>spreads—good<br>cover on wire<br>fences | Can climb nearby trees and shrubs creating a maintenance problem.   | 1-3'    | Fast              | 2-3'    | 3X, 4X,<br>5X | **       | <b>&amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp;</b> |

| Plant name and   |   | *5  |        | , જે   | ic.     | distance      | zones      | -OSITE                   |
|--|---|---|--------|--------|---------|---------------|------------|--------------------------|
| Plantituti   | Nes.  | Connents  | Height | Growth | Plantin | Harding       | , right ex | Nated                    |
| Melampodium leucanthum BLACK FOOT DAISY  Spreading, low growing clump. White daisy-like flower bloom intermittently spring through fall.               | Low-growing<br>wildflower look<br>in arid or<br>transition zones.   | Semi-perennial—needs replacing from time to time  | 1'     | Medium | 2'- 3'  | 4X, 5X        | **         | ۵                        |
| Myoporum parvifolium MYOPORUM  Spreading, low growing; rich green foliage w/ small white flowers.  | Slight slopes,<br>large open areas.   | No foot traffic. Do not crowd plants. Rarely roots on contact with soil.  | 1'     | Fast   | 5' - 6' | 4X, 5X        |            | <b>&amp; &amp;</b>       |
| Oenothera speciosa MEXICAN EVENING PRIMROSE  During spring bloom bears a profusion of rose-pink 1.5" flowers, which close after dark.                  | Good for dry<br>slopes; parking<br>strips   | Perennial which needs little care once established. Invasive if not controlled; has underground runners; cut back to ground early spring and cut back again after bloom.  Needs good drainage. Flea beetles can be problem. | 1'     | Fast   | 2'      | 3X, 4X,<br>5X | **         | <b>&amp; &amp; &amp;</b> |
| Oenothera caespitosa WHITE EVENING PRIMROSE  Dark green leaves in rosettes; exceptionally large white flowers that bloom at dusk, spring through fall. | Good for dry<br>slopes; parking<br>strips, smaller<br>beds under<br>shrubs                                | May be short lived, but<br>spreads by seed. Watch<br>for flea beetles.  | 1'     | Fast   | 1.5'    | 3X, 4X,<br>5X | **         | <b>&amp; &amp; &amp;</b> |
| Oenothera stubbei SALTILLO EVENING PRIMROSE  Rosettes of bright green leaves; 2" yellow flowers bloom spring through fall.                             | Good for dry<br>slopes; parking<br>strips, smaller<br>beds under<br>shrubs                                | Spreads by above<br>ground runner. Needs<br>afternoon shade. May<br>be cut back after winter.   | 1'     | Fast   | 3'      | 4X, 5X        | **         | ۵۵                       |
| Ophiopogan japonicus MONDO GRASS  Clumps of dark green foliage in mounds; lilac blossoms, blue fruit— concealed by foliage                             | Good in poorly<br>lit atriums; good<br>around boulders,<br>in a shady<br>protected spot or<br>mini-oasis. | Somewhat oriental in appearance, slow to fill in, leaf tips often turn brown in salty soil.   | 1'     | Slow   | 1'      | 3X, 4X,<br>5X | **         | 88                       |

| Plati Parision  |   | <i>1</i> 5  |         | √હે               | Ç.      | distance      | s lones                                | osure                    |
|---|---|---|---------|-------------------|---------|---------------|--|--------------------------|
| Plant Ciphe   | Neg.  | Connents  | Height  | Growth re         | Plantin | Harding       | right ex                               | Nater                    |
| Osteospermum fruticosum TRAILING AFRICAN DAISY  Long runners, light green fleshy leaves, 3" daisy-like blossoms   | Sunny areas,<br>sloping bank<br>cover, also<br>hanging baskets              | Prune back in late winter if leggy; pinch to encourage branching; purple form is hardier than white hybrid 'African Queen'; dies out in spots. Replant bare spots spring or fall.                                   | 1'      | Fast              | 2'-3'   | 4X, 5X        | *                                      | 88                       |
| Rosmarinus prostratus DWARF ROSEMARY  Arching, creeping stems; dark green narrow leaves; small blue flowers in winter and spring  | Sunny banks,<br>slopes and<br>planters                                      | Good transition from<br>desert to cultivated<br>plants; must be pruned<br>regularly to prevent<br>woodiness. Prevent<br>Bermuda invasion.<br>Spittle bugs can be<br>problem.  | 1-2'    | Fast              | 2' - 3' | 3X, 4X,<br>5X | **                                     | 8                        |
| Santolina chamaecyparissus SANTOLINA  Dense mat of fine textured green-grey foliage; yellow button-like blossoms in summer  | Low border or<br>ground cover,<br>small areas                               | Good desert transition. Prune to prevent woodiness; summer— prune to prevent seed heads   | 1' - 2' | Medium            | 2' - 3' | 3X, 4X,<br>5X |  | 8 8                      |
| Santolina virens GREEN SANTOLINA  Mounding, dense green foliage; flowers in the summer  | Low borders or<br>ground cover;<br>small areas                              | Striking texture and color; replace if woody  | 1' - 2' | Medium            | 2'      | 3X, 4X,<br>5X |  | <b>&amp; &amp;</b>       |
| Sedum sp. (Many) SEDUM, STONECROP  Mostly creeping plants with thick succulent leaves; small blossoms of various colors but mostly yellow   | Small beds, low<br>banks and<br>mounds                                      | Many kinds available. Bird and rodents a problem. Hard to weed because plant is brittle and succulent leaves crush underfoot. Needs part shade in low desert (Zone 5)   | 1'      | Medium<br>to fast | 1'-2'   | 3X, 4X,<br>5X | ************************************** | 8                        |
| Teucrium chamaedrys 'Prostratum' PROSTRATE GERMANDER  Dense dark green foliage, spreads by stolons; rose- purple flowers in summer  | Compact edging<br>or ground cover;<br>good with stones<br>and railroad ties | Takes sun, heat, poor<br>soil; soil must drain<br>well; cut back in late<br>winter to renew growth  | 1'      | Medium            | 1' - 2' | 3M,<br>4X, 5X | **                                     | <b>&amp; &amp; &amp;</b> |
| Mostly creeping plants with thick succulent leaves; small blossoms of various colors but mostly yellow  Teucrium chamaedrys 'Prostratum' PROSTRATE GERMANDER  Dense dark green foliage, spreads by stolons; rose- | banks and mounds  Compact edging or ground cover; good with stones          | Bird and rodents a problem. Hard to weed because plant is brittle and succulent leaves crush underfoot. Needs part shade in low desert (Zone 5)  Takes sun, heat, poor soil; soil must drain well; cut back in late |         | to fast           |         | 5X 3M,        |  | ۵                        |

| Plant name and  |   | nt <sup>5</sup>   |         | Growthre    | ie.     | distance      | ines in  | oosure   |
|---|---|---|---------|-------------|---------|---------------|----------|--|
| State Stibit  | No.   | Confinents  | Height  | Clouth      | Plantin | Harding       | light et | Nater  |
| Trachelospermum jasminoides STAR JASMINE  Loose mounding vine; shiny dark-green foliage; fragrant 1" white flowers in spring                                | Informal beds,<br>planter boxes                                 | Afternoon shade<br>required below 2000'<br>elevation; will climb<br>nearby shrubs and trees;<br>slow to establish from<br>small liners; chlorotic in<br>poorly drained soils. | 1' - 2' | Medium      | 2'      | 3M, 4X,<br>5X | **       | <b>&amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp; &amp;</b> |
| Verbena peruviana PERUVIAN VERBENA Ground-hugging, dark green foliage; flowers pink to white, bloom spring to fall.   | Bed, borders,<br>planters                                       | Hybrids available in<br>several colors; long<br>blooming season.  | <1'     | Fast        | 2'      | 3M, 4X,<br>5X | **       | ۵۵   |
| Verbena gooddingii GOODING'S VERBENA Soft green foliage, masses of lavender flowers in spring.  | Bed, borders,<br>planters                                       | Needs extra water in summer. Short lived.   | 1'      | Me-<br>dium | 2'      | 3X, 4X,<br>5X |          | 8 8  |
| Verbena rigida SANDPAPERVERBENA Upright, stiff rough foliage; dark purple flowers in spring.  | Bed, borders,<br>planters                                       | Spreads by seed, can become invasive  | 1'      | Fast        | 3'      | 3M, 4X,<br>5X | ***      | <b>&amp; &amp;</b>   |
| Vinca major BLUE PERIWINKLE  Trailing stem; shiny dark- green foliage; lavender-blue flowers in spring  | Slopes, banks,<br>level areas;<br>planter boxes;<br>under trees | May be sheared late in winter; a variegated form is available. Chlorotic in full sun with heavy irrigation.   | 1'      | Fast        | 1'      | 3X, 4X,<br>5X | ***      | <b>&amp; &amp; &amp; &amp;</b>   |
| Wedelia trilobata WEDELIA  Dark green foliage on flexible stems that root where they contact the soil; yellow daisy-like flowers bloom spring through fall. | Shady beds,<br>mini-oasis areas.<br>Needs room to<br>spread.    | Not for full sun in desert (Zones 4, 5). Rampant growth if conditions are right.  | 1'      | Fast        | 2' - 3' | 3M, 4X,<br>5X | **       |  |

# Groundcovers in the table are arranged alphabetically by scientific name. Following are the equivalent Latin names for the common name that may be more familiar:

Algerian ivy
Angelita daisy
Hymenoxys acaulis
Australian saltbush
Bush morning glory
Black foot daisy
Hedera canariensis
Hymenoxys acaulis
Atriplex semibaccata
Convolvulus cneorum
Melampodium leucanthum

Blue periwinkle Vinca major

Bright bead cotoneaster Cotoneaster glaucophyllus
Carolina jessamine Gelsemium sempervirens

Carpet bugle Ajuga reptens
Clumping gazania Gazania hybrids
Creeping lily turf Liriope spicata

Desert broom hybrid Baccharis x 'Centennial'
Desert marigold Baileya multiradiata
Dwarf rosemary Rosmarinus prostratus

Gold dalea Dalea capitata
Gold lantana Lantana camara
Gooding's verbena Verbena goodingii
Green santolina Santolina virens

Ground morning glory Convolvulus mauritanicus

Ice plant Carpobrotus, etc.

Japanese honeysuckle Lonicera japonica 'Halliana'

Mexican evening primroseOenothera speciosaMondo grassOphiopogon japonicusMyoporumMyoporum parvifoliumPeruvian verbenaVerbena peruvianaProstrate acaciaAcacia redolens

Prostrate Juniper Juniperus

Prostrate Germander Teucrium chamaedrys 'Prostratum'
Purple leaf wintercreeper Euonymus fortunei 'Colorata'

Saltillo evening primrose Oenothera stubbei Sandpaper verbena Verbena rigida

Santolina Santolina chamaecyparissus

Sedum, Stonecrop Sedum

Sprenger asparagus Asparagus densiflorus 'Sprengeri'

Sundrops, Calylophus Calylophus hartwegii

Trailing indigo bush Dalea greggii

Trailing gazania Gazania rigens leucolaena
Trailing lantana Lantana montevidensis
Trailing African daisy Osteospermum fruiticosum

Wedelia trilobata

White evening primrose Oenothera caespitosa