A Homeowner's Guide to a Water Efficient Landscape

Office of the State Engineer
nm
Interstate Stream Commission

New Mexico's Enchanted Xeriscape Guide

Design Beautiful Spaces

Transform your yard into a vibrant oasis

Save Water

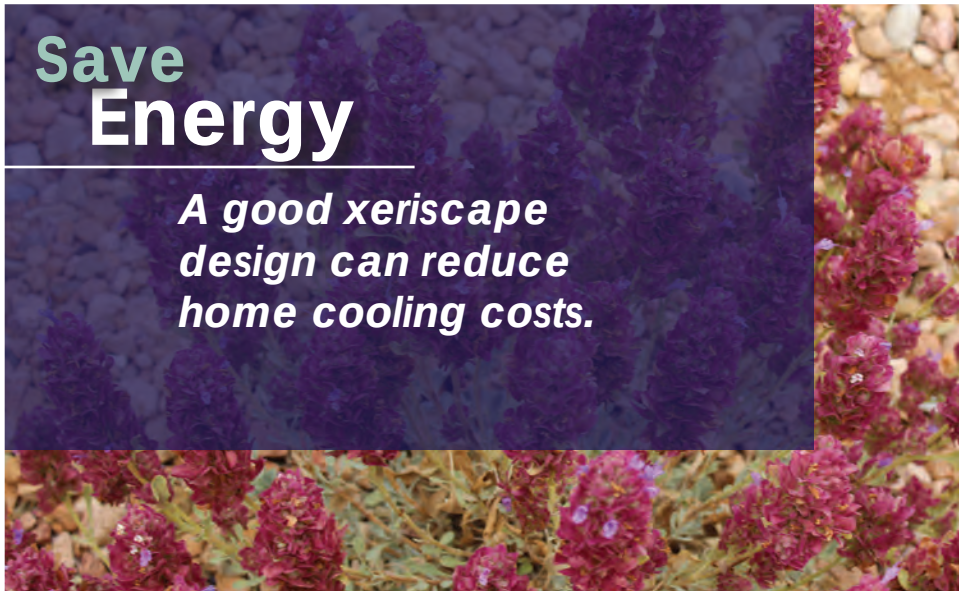
Reduce water use by choosing native and drought-tolerant plants.

Save Money

Lower your water bill, reduce maintenance costs, and increase your property value.

Save Time

Decrease the time you spend watering, fertilizing, and mowing.



Save Energy

A good xeriscape design can reduce home cooling costs.

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Photo courtesy of Marian Wrage City of Rio Rancho


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Introduction to Xeriscaping

What is Xeriscape?

Xeriscape is water-efficient landscaping appropriate to the natural environment. Water is a precious resource, especially in New Mexico's semi-arid climate. Choosing xeriscape and using xeric plants (plants that thrive in dry conditions) provides an opportunity for New Mexicans to create beautiful and functional yards, while conserving water. The places you design can become the sites you use, enjoy, and love.

The natural landscapes of New Mexico are as varied as they are beautiful. From the cool northern mountains to the hot deserts of the south, most of the state's native plants have the ability to survive on very little water. Although rainfall can vary throughout the state, New Mexico averages less than 13 inches of rainfall per year.

The term xeriscape is derived from the Greek word *xeros*, which means dry. The goal of xeriscape is to create a visually attractive landscape using innovative design and regionally appropriate plants to conserve water. When properly maintained, **xeriscape can easily use less than one-half the water of a traditional landscape.** Choosing xeriscape in New Mexico makes sense, as this type of landscaping incorporates low-water-use plants, efficient irrigation, and mulches to reduce water use.

The Advantages of Xeriscaping

- Xeriscaping saves water. Using native and other drought-tolerant plants can significantly reduce water use.
- Xeriscaping saves time. It minimizes or eliminates the use of bluegrass lawns and other thirsty plants. This common-sense approach can reduce the time you spend watering, fertilizing, and mowing.
- Xeriscaping saves money. Reducing water use can lower your water and energy bill. Xeriscaping can also reduce maintenance costs.
- Xeriscape saves energy. Trees and plants can provide shade and reduce home cooling costs.
- Xeriscape is aesthetically appropriate for this region of the country and can increase the beauty and value of your property. Native plants can enhance wildlife habitat and attract butterflies, bees, and other pollinators.

Xeriscaping Tips

- Newly planted xeriscapes require additional water in the first year or two. Once plants are established, decrease watering or phase out watering completely.
- Consider converting to water-efficient grasses. Native and low-water species, such as blue grama and buffalo grass, need far less water than Kentucky bluegrass.
- Xeriscaping does not have to be an "all or nothing" proposition. Work can be done in phases. After completing your landscape plan, you can convert one zone at a time to low-water-use plants.
- Hiring a landscape professional is one way to completely convert an existing landscape to xeriscape. However, with a proper plan, xeriscaping your yard in stages can be an excellent do-it-yourself project.

Xeriscaping v. Zeroscaping

Many people confuse xeriscaping with “zeroscaping.” People often mispronounce xeriscape and say zeroscape. The correct way to say xeriscape is “zeer-i-scape” not “zee-ro-scape.” The following are some of the key differences between these two types of landscapes:

- Xeriscape is derived from the Greek word “xeric” meaning dry or arid.
- Xeriscape is a type of landscape design that emphasizes water conservation and uses a wide variety of native and other water-efficient plants to create color, interest, and an oasis-like feeling.
- Xeriscape benefits wildlife and pollinators.
- Xeriscape shades the ground and cools the environment.
- Zeroscape uses stone or gravel instead of traditional landscaping design to reduce water use and maintenance. Zeroscape often consists of a yard filled with gravel and containing few or no plants.
- Zeroscape increases urban heat island effect, making conditions hotter for people, wildlife, and pollinators.
- Xeriscape is based on the principle of design and planning and creates a beautiful environment.
- The absence of design and planning is often noticeable in zeroscape. It’s often not considered aesthetically pleasing and may reduce home values.

Why Xeriscape?

Everyone depends on water to sustain life. It will be to your advantage to know how to use a limited water supply wisely and learn about water conservation techniques. New Mexico’s semi-arid climate and low average rainfall make it an ideal place to practice xeriscaping. Reducing your outdoor watering is one of the most effective ways to conserve water. An average single-family household uses more water for outdoor watering than any other use and substantially more water is used in the summer than in the winter. Water conservation requires effort and every little bit helps. Your choices and actions matter.

Choosing xeriscape saves residential and commercial property owners water, money, energy, and time. This extremely water-efficient landscaping design adds beauty; reduces cooling costs; creates a sense of place; and attracts hummingbirds, butterflies, and other desired wildlife. Yard maintenance and care are reduced by using well-designed irrigation systems and regionally appropriate plants.

Typical New Mexico Seasonal Household Water Use

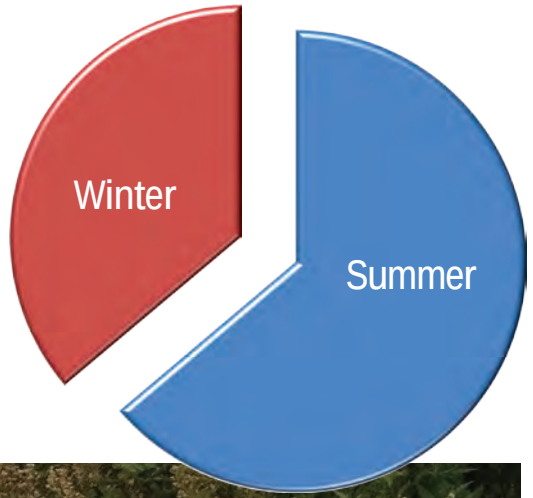


Photo courtesy of Marian Wrage City of Rio Rancho

Creating Your Xeriscape

One of the keys to creating a successful xeriscape is planning for different areas of landscape use. Xeriscape zones allow you to plan your landscape based upon the functions you want your yard to serve and the water needs of the plants you select. By putting plants into specific zones, you create a water-efficient landscape that is both beautiful and functional. Typically, there are three xeriscape zones: arid, transition, and mini-oasis.

Arid – Zone 1

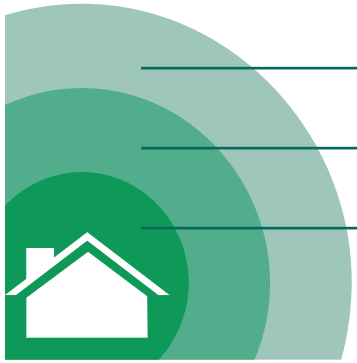
Far away from the house and removed from the most active areas of the landscape, Zone 1 landscaping features the most drought-tolerant vegetation. Choose native plants and other varieties that only rarely require supplemental watering. Rainwater can be directed toward these xeric plants with land contouring to provide virtually all the water they need once the plants are well established.

Transition – Zone 2

Zone 2 is an intermediate zone that takes advantage of low- and moderate-water-use plants. The transition zone is used to blend lush areas with the more arid parts of the landscape. Plants in Zone 2 need infrequent, supplemental watering (usually once a week or less).

Mini-Oasis – Zone 3

Your "outdoor living room" should be in or near a mini-oasis (Zone 3). Zone 3 is the area nearest to the house where the highest water-use plants are closely placed, creating the lushest zone. This mini-oasis zone includes the lawn area (if any), which is typically the highest water-use area. This zone also includes the shady north and east sides of a house, which are usually the coolest parts of the site. Any place where water collects, such as from a roof or at the base of a slope, can be turned into a mini-oasis.



Xeriscape Zone 1 **Arid:** Drought-tolerant plants (water only rarely)

Xeriscape Zone 2 **Transition:** Water-efficient plants (water infrequently)

Xeriscape Zone 3 **Mini-Oasis:** Regular supplemental water

Identify Your Climate Area

Selecting the Right Plants

Right plants, right place

Based upon your local climate (see the New Mexico Climate Areas map below) and xeriscape zones in your landscape plan (see Creating Your Xeriscape), you will need to select the appropriate plants. Use these three regional lists as a starting point.

Please keep in mind that this is just a small sampling of plants that will grow in the various climate areas and zones. There are literally hundreds of species that grow and thrive in New Mexico. For more information about additional plants to meet your landscape requirements, visit the New Mexico Plant List hosted by the New Mexico Office of the State Engineer or contact your local nursery or landscape professional.

Several factors influence regional and local climatic conditions. These include latitude, elevation, terrain, exposure, and precipitation. Although there is no foolproof way to completely account for these variations, this map can help you choose the appropriate plants and trees for your location.

New Mexico Plant List

http://wuc.ose.state.nm.us/Plants/

The New Mexico Plant list provides information on low-water-use native plants or adaptive plants that thrive in New Mexico's climate and save water. Select your search criteria (Region, Plant Category, Flower Color, Bloom Season, Sun Exposure, Plant Size, Deciduous/Evergreen, Water Requirement, Wildlife Attraction, or Soil Type) and find information to help you choose plants that are appropriate to your specific microclimate.

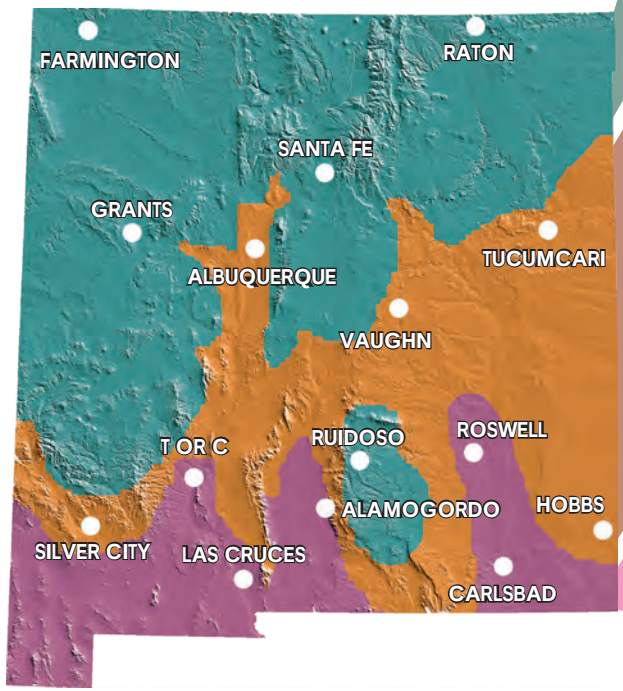
Find your perfect plant with our online search tool

New Mexico Climate Areas

Climate Area 1: North/Mountain

Climate Area 2: Central

Climate Area 3: South



	Zone 1. Arid Drought-tolerant plants, water only rarely	Zone 2. Transition Water-efficient plants, water infrequently	Zone 3. Mini-Oasis Regular supplemental water
Climate Area 1: North/Mountain	**Perennials and groundcovers:** hollyhock, Greek yarrow, purple iceplant, New Mexico hummingbird mint, prairie sage, licorice mint hyssop, firewheel. **Shrubs and accents:** Apache plume, big sagebrush, desert sage, upright rosemary, silver sage. **Trees:** New Mexico olive, piñon pine, black locust, desert willow, canyon hackberry.	**Perennials and groundcovers:** summer phlox, Roman chamomile, purple cone flower, tufted violet, Mexican evening primrose. **Shrubs and accents:** rock sage, snowberry, golden currant, Nanking cherry, desert broom. **Trees:** bristlecone pine, English oak, bigtooth maple, bristlecone pine, chokecherry.	**Perennials and groundcovers:** blue flax, shrubby cinquefoil (native potentilla), scarlet cinquefoil, daylily, pale evening primrose. **Shrubs and accents:** blue avena grass, raspberry delight hybrid bush sage, Virginia creeper. **Trees:** bigtooth maple, Kentucky coffee tree, littleleaf linden, Engelman spruce, green ash, raywood ash.
Climate Area 2: Central	**Perennials and groundcovers:** blackfoot daisy, bush morning glory, chocolate flower, paperflower. **Shrubs and accents:** Apache plume, chamisa (rabbitbrush), creosote bush, Mormon tea, threeleaf sumac. **Trees:** Arizona cypress, desert willow, western honey mesquite, oneseed juniper.	**Perennials and groundcovers:** Pyrenees cotoneaster, Mexican evening primrose, purple iceplant, spotted gayfeather. **Shrubs and accents:** Spanish broom, lavender sage, Russian sage, coralberry, woods rose. **Trees:** blue atlas cedar, chaste tree, Chinese pistache, Mexican elder, New Mexico olive.	**Perennials and groundcovers:** blue flax, snow-in-summer, hen and chicks, licorice mint hyssop. **Shrubs and accents:** autumn sage, burkwood viburnum, pomegranate. **Trees:** Arizona sycamore, Japanese pagoda tree, New Mexico olive, Oklahoma redbud, smoketree.
Climate Area 3: South	**Perennials and groundcovers:** blackfoot daisy, desert zinna, Parry's penstemon. **Shrubs and accents:** creosote bush, Texas ranger, turpentine bush. **Trees:** desert willow, little walnut, Mexican plum, Texas ash.	**Perennials and groundcovers:** Mexican evening primrose, orange hummingbird mint, Peruvian verbena, poppy mallow. **Shrubs and accents:** autumn sage, western sand cherry, bush morning glory, littleleaf mock orange. **Trees:** chaste tree, Chinese pistache, cork oak, Mexican elder, coolibah.	**Perennials and groundcovers:** golden columbine, lily of the Nile, Mexican evening primrose, purple coneflower. **Shrubs and accents:** autumn sage, desert honeysuckle, pomegranate, sugarbush. **Trees:** New Mexico locust, holly oak, prairie flameleaf sumac, box elder, southwestern chokecherry.

Planning and Design

Design Considerations

Before you lift a shovel, purchase a single plant, or call a local landscaper for assistance, ask yourself a few questions about the kind of yard you want to create.

What's Your Primary Focus?

What is your primary goal for your landscape: water conservation? low maintenance? wildlife-friendly habitat? an aesthetically beautiful yard that's the envy of the neighbors? All of these are important considerations and will influence the design of your landscape.

How Will the Landscape Be Used?

If you need an active recreation area where children can play, a small turf area may be in order. If what you really want is an "outdoor living room" where you can lounge in a hammock and enjoy the views, consider expanding your patio area with additional shade structures and adding low-water-use trees and shrubs to provide privacy.

Pay attention to the existing plants in your yard. Are there some plants that are in decline and should be removed? Are there some plants that you absolutely want to keep? The types and locations of plants will influence the water zoning of your new design.

What Do Your Favorite Landscapes Look Like?

Xeriscape styles can range from the formal look of an English country garden to the native look of a naturally occurring New Mexican landscape. What "look" appeals to you most? Your landscape should reveal your personality while reflecting the regional ecology. Notice your favorite landscapes and then re-create some of their best features in your yard.

Is Privacy Important to You?

Landscaping can do a marvelous job of shielding your property from the next-door neighbors. Conversely, there may be views you want to enhance. Knowing the mature size of the plants and trees you select will ensure your yard provides the views or privacy you desire.

Choose Your Water Efficiency Target

You have the power to significantly improve your water efficiency in your yard and home. Replacing turf (often called grass) with a xeriscape landscape is a terrific way to reduce your water use. You can choose to do a complete remodel or just update sections of your landscape.

The following information will help you identify what type of landscape will meet your needs and maximize your water savings potential, which is determined by the amount of water required by plants and the efficiency of the irrigation system.

Photo courtesy of EPA WaterSense

Photo courtesy of Hunter Ten Broeck Waterwise Landscapes Incorporated

Photo courtesy of Charles R. Lawler

Planting

Low- to moderate-water-use plants

A low-water-use garden with some moderate-water-use accent plants, and up to 10% turf (or other high-water-use plants).

45% low water use, 45% moderate water use, and 10% high water use.

Low-water-use plants

A low-water-use garden with no more than 10% turf (or other high-water-use plants).

90% low water use and 10% high water use.

Very low-water-use plants

A very low-water-use garden with a mix of very-low- and low-water-use plants.

50% very low water use and 50% low water use.

Irrigation

Low efficiency irrigation

Conventional spray irrigation: Conventional spray heads apply water faster than most soils can absorb it and they produce smaller water droplets that are susceptible to wind.

Impact rotors: Impact rotors are one of the least efficient methods of irrigation. They are quickly being replaced by sprinkler nozzles.

Moderate efficiency irrigation

For turf grass: Rotator nozzles are best suited for spaces 8–30 feet wide. Gear rotors are best suited for areas 25 feet wide and larger.

For other plants: Consider emitters, bubblers, or professional landscape drip line.

Our Region's Trusted Water Leader
San Diego County Water Authority

High efficiency irrigation

Drip emitters and in-line emitters: Drip irrigation is the most efficient way to water perennials, shrubs, and trees. Drip systems apply water slowly so runoff is not an issue. You can leave the water on long enough to reach the deep roots of shrubs and trees.

Bubblers: Best suited for trees and some small shrub areas.

Emitters, bubblers, or professional landscape drip line: Best suited for tree and shrub areas of smaller size.

Soil Improvements

To enable your soil to better absorb water, you may need to add soil amendments (such as compost) before you plant. The water-retention abilities of most New Mexican soil are improved with the addition of organic matter. If you are landscaping with native plants, however, soil amendments may not be necessary. Some well-adapted xeric plants prefer soil that is not too rich. For these plants, doing as little as loosening the soil in a wide area is all the soil preparation you will need.

Appropriate Turf Areas

Kentucky bluegrass isn't native to New Mexico. The statewide rainfall average is 13 inches per year; however, Kentucky bluegrass requires 40 inches or more of rain per growing season to stay green and healthy. If you plant Kentucky bluegrass, be prepared to water a lot, as the average rainfall will not be sufficient and the difference in moisture must come from irrigation.

It is important for New Mexicans to rethink lawns. Consider the ideal size for your lawn and the type of ground covering that meets your family's needs. You may be able to reduce the size of your lawn and plant water-efficient groundcovers and shrubs instead of grass. Drought-tolerant grasses, such as buffalo grass and blue grama grass, or water-efficient groundcovers and shrubs may be substituted for water-thirsty Kentucky blue grass in many situations.

Low-Water-Use Plants

Choose native and low-water-use plants whenever possible. A wonderful variety of water-efficient plants grow in New Mexico. Some plants are perfect for adding year-round greenery and texture, while others are great for adding a splash of seasonal color. Select the plants that are best suited to your climate area and to your site's microclimates. For beauty and visual interest all year long, select evergreen plants to cover at least 20% to 30% of your landscape.

Xeriscape uses the concept of zoning (see Creating Your Xeriscape). By grouping plants with similar water needs together into specific zones, your landscape can use water more efficiently. Low-water-use plants should be grouped together away from the high-water-use plants and turf. Take advantage of warm or cool microclimates to create areas of interest and diversity.

Mulching

Mulches cover the soil and minimize evaporation, cool the soil, reduce weed growth, and slow erosion. Mulches can also provide interesting features in the landscape and offer protective cover until plants mature. Organic mulches, including bark chips, wood grindings, and composted cotton burrs, are commonly used in planting beds. For trees, add organic mulch as ground cover within the entire dripline of the canopy and for shrubs place mulch over the rootball of the shrubs to create moisture and improve soil conditions. Inorganic mulches, such as gravel and crusher fines, can be used to add texture and color. Mulch needs to be several inches thick and cover the entire surface of the plant's root zone to be effective. Organic mulches should be three to four inches deep and, because they degrade, need to be replenished over time. One cubic yard of mulch will cover 100 square feet of landscape of a depth to three or four inches.

For more information on mulching

See *Mulches for Gardens and Landscapes* by New Mexico State University (NMSU)

https://aces.nmsu.edu/pubs/_h/H121/

Photo courtesy of
Hunter Industries Incorporated

Efficient Irrigation

Proper irrigation practices can lead to major water savings. The goal of efficient irrigation is to promote deep root growth by watering deeply and infrequently. Your irrigation system should be designed to incorporate your xeriscape plan's water zones (see Creating Your Xeriscape). **Plants should receive only the water they require to achieve an acceptable appearance.** Overwatered xeric plants outgrow the space provided, require more maintenance, and are more susceptible to pests and disease. Make sure plants with similar watering needs and rooting depths are watered by the same irrigation valve.

Irrigation Types

- **Hand watering** can be an effective choice, although it requires more time. This method should only be used in a landscape with exceptionally drought-tolerant plants.
- **Sprinkler systems** can be a wasteful style of irrigation in a xeriscape if most of the water runs off or evaporates; however, a well-designed sprinkler system is an effective way to irrigate turf.
- **Drip irrigation** (also called point source drip irrigation or called microirrigation) is a traditional and commonly used method. One or two emitters provide water at the base of each plant.
- **Grid drip irrigation** is a newer method of drip irrigation and is designed in a grid pattern, ensuring that water is delivered to every square foot of the garden. Professional landscape drip line is effective and easy to work with when designing grids. This layout is best in landscapes where ground coverage of the entire area is desired, since it does not make sense to water the entire soil surface if plants are spaced several feet apart. This method may also be used to water small areas of turf/lawn, which prevents water loss from evaporation or runoff.

Each of these methods has pros and cons; the best choice will depend on the plants in the landscape, soil type, climate, your schedule, etc.

New Mexico Landscape Irrigation Smart Calculator

http://wuc.ose.state.nm.us/irrcalc/

The New Mexico Landscape Irrigation Smart Calculator is designed for New Mexico gardeners and landscapers to provide an irrigation (or watering) schedule to facilitate growing a healthy, water-conserving landscape. You will need to enter some basic information about your location, plants, and irrigation system into the calculator and it will generate a specific irrigation "smart" schedule for each zone based on the parameters you provided.

6 Steps to Smart Watering

1. Water early. The best time to water during warm months is in the early morning or early evening.
2. Don't water pavement or landscape rocks. Adjust your sprinklers to water only plants.
3. Cycle your sprinkling. Set your controller to run your lawn sprinklers for a period of time, shut down for a soaking-in period, and then water again. For example, rather than watering your lawn for 14 minutes, try a 7-minute watering cycle, followed by a 30-minute "off" cycle, and then another 7-minute watering cycle. This on-off-on system will enable water to penetrate into the soil, instead of running off.
4. Don't water when it's windy or raining.
5. Use drip and other water-conserving irrigation methods on gardens, flowers, shrubs, and trees.
6. Follow seasonal watering guidelines or adjust your irrigation timer according to the season.

WaterSense

As you plan your irrigation system and begin looking at materials, you may notice a WaterSense label on some of the products. The U.S. Environmental Protection Agency's (EPA's) website provides the following information about the WaterSense label:

WaterSense is both a label for water-efficient products and a resource for helping you save water. When you see a product labeled WaterSense, it meets the EPA specifications for water efficiency and performance and is backed by independent, third-party certification. The New Mexico Office of the State Engineer is a partner in this voluntary partnership program sponsored by the EPA.

Smarter Technology

Using water-efficient technologies can make a big difference in keeping your residential or light commercial irrigation system running efficiently without a lot of effort on your part. Consult an irrigation professional certified by a WaterSense labeled program to find out which options are best for updating your irrigation system.

WaterSense Labeled Irrigation Controllers

WaterSense labeled weather-based irrigation controllers are a type of "smart" irrigation control technology that uses local weather data to determine when and how much to water. WaterSense labeled irrigation controllers can save you water, time, and money when compared to standard models.

Microirrigation

Microirrigation can reduce the likelihood of overwatering a landscape by delivering water directly to where it is needed most, the root zone of plants, preventing runoff and reducing evaporation. WaterSense developed two guides: *Adding Microirrigation to Your Services: A Mini-Guide for Irrigation Professionals* and *Saving Water With Microirrigation: A Homeowner Guide*, to help irrigation professionals and homeowners understand the benefits of microirrigation. The guides also provide design, installation, and maintenance tips, which are the keys to an efficient irrigation system.

WaterSense Labeled Spray Sprinkler Bodies

WaterSense labeled spray sprinkler bodies, which feature integral pressure regulation, can help decrease the outdoor water waste associated with irrigation systems that receive water under higher pressure.

Soil Moisture Sensors

Soil moisture-based control technologies water plants based on their needs by measuring the amount of moisture in the soil and tailoring the irrigation schedule accordingly. WaterSense has issued a Notice of Intent to label soil moisture-based control technologies.

For more information

See EPA's WaterSense Program

https://www.epa.gov/watersense/outdoors

Irrigating Your Xeriscape Zones

It is important to use water efficiently when irrigating. Different landscapes, and specific microclimates within a landscape, can best be watered using different types of irrigation. Turf and other high-water-use areas must be irrigated separately from native and xeric plants. The following are the most common and efficient irrigation methods for the various xeriscape zones in your landscape:

Revisit your xeriscape plan and look at the property for ways to use concrete areas and rooftop catchment to direct rainwater to plants. You can also direct water to planting areas by creating berms (hills), swales (depressions), and other site grading.

Zone 1

Zone 1. Arid Zones

Drip irrigation works well in the arid zones. It's particularly effective when plantings are new (one to two years old) or during a drought. After establishment, plants in the arid zones can survive on annual rainfall.

Zone 2

Zone 2. Transition Zones

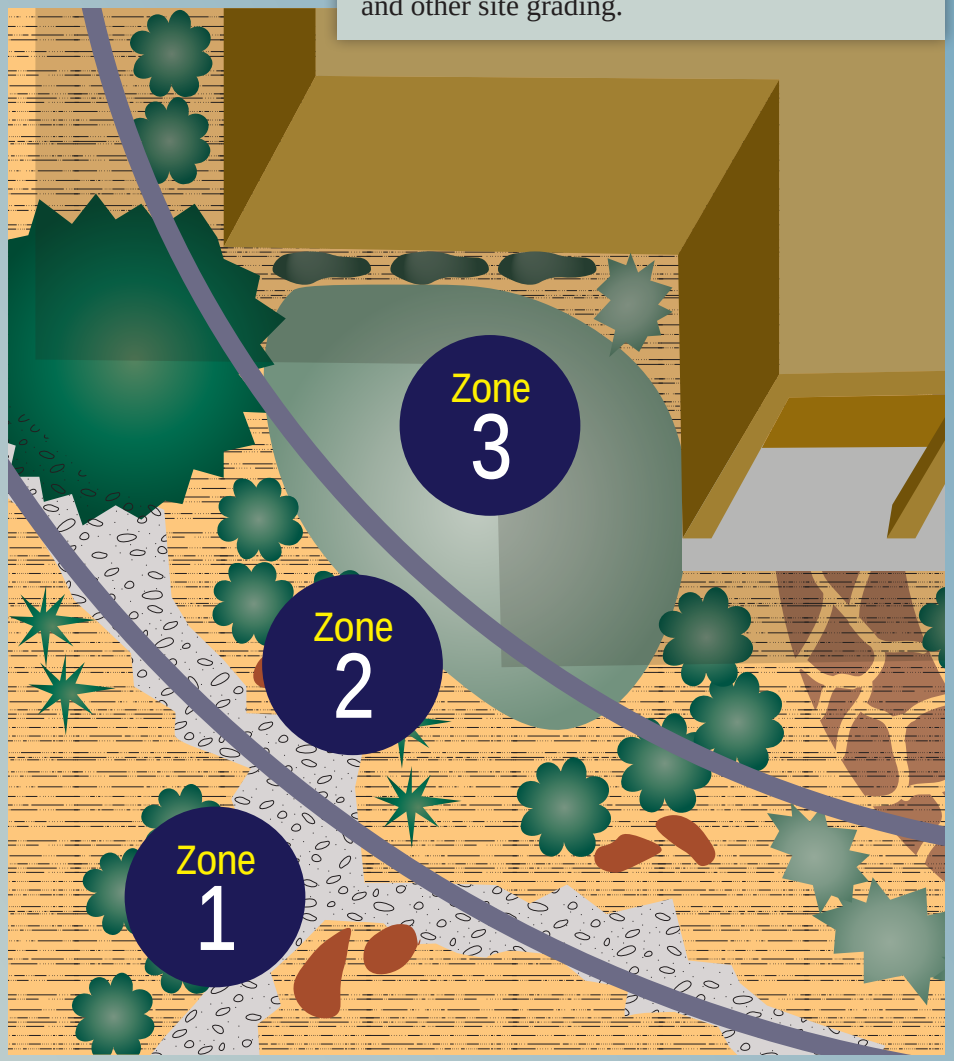
Drip irrigation is an efficient way to water the oasis and transition zones of the xeriscape. Trees, shrubs, flowers, and groundcovers can be watered efficiently with low-volume drip emitters, sprayers, and bubblers. Micro-sprayers are an efficient choice for moderate-water-use flowers, perennials, and some shrubs. Small areas of groundcover can also be efficiently watered with micro-sprayers. Plants in the transition zone will need infrequent watering after they are established.

Zone 3

Zone 3. Oasis Zones

In addition to drip irrigation, other irrigation methods work well in the oasis zone. For turf areas, a sprinkler system works best. Traditional sprinklers are designed for water-thirsty turf. (Sprinklers are also commonly used for water-efficient blue grama and buffalo grass—you just don't need to water as often!) Sprinklers can also be an efficient way to irrigate some densely planted xeric flowers and groundcovers. Use low-spray-angle heads on lawns and low groundcovers to reduce water loss due to wind.

Subsurface irrigation is an option for some turf areas and other dense plantings. By delivering water underground directly to a plant's roots, subsurface irrigation loses virtually no water to evaporation. Plants in the oasis zone will continue to need regular watering after they are established.



Components of an Irrigation System

Controller / Timer

The controller/timer is the "brain" of the system. It regulates the watering cycles to activate the control valves on the times and days you select. Electronic controllers enable you to precisely adjust watering times, program multiple cycles, and skip cycles when it rains.

Smart Controllers

Smart controllers use cloud-based technology (meaning you can use an app on your phone) to manage watering. These weather-based controllers automatically increase or decrease watering based on rainfall and temperature.

Valves

Control valves are used to turn the water on and off. Automatic valves are wired to the controller and programmed to open and close at specific times and days. Manual valves must be opened by hand to water a specific zone. Most systems also have a manual shut-off/isolation valve that allows you to shut off the irrigation system for service or emergency repairs.

Tip:

You should not mix bubblers, drip emitters, and lawn sprinklers on the same automatic zone.

Photos courtesy of Hunter Industries Incorporated

Pressure Regulator

Although most urban utility systems deliver water at approximately 50 pounds per square inch (PSI), most new irrigation devices operate best at far less pressure. (A typical drip system operates best at 20 PSI.) A pressure regulator reduces incoming water pressure to the ideal setting for the irrigation system. Review the manufacturer's specifications to make sure your system works most efficiently.

Backflow Preventer / Anti-Siphon Valve

A backflow preventer keeps irrigation system water (and dirt, fertilizer, etc.) from being siphoned back into your drinking water. Backflow preventers are required by ordinances in most cities.

Filter

Drip systems require a built-in filter to keep particles (such as sand and silt in the water) from clogging the small emitters.

Pipes / Tubing

The water pipes are the "skeleton" of an irrigation system. They send water underground throughout the landscape to the water-delivery devices (drip emitters, sprinklers, etc.). Most irrigation systems use PVC pipe or polyethylene tubing.

Multi-emitter Hydrant

Some multi-emitter hydrants can replace old sprinkler heads, others are designed to fit over polyethylene tubing. The various independent outlets in a multi-emitter hydrant can be fitted with emitters that deliver different amounts of water.

Micro-tubing

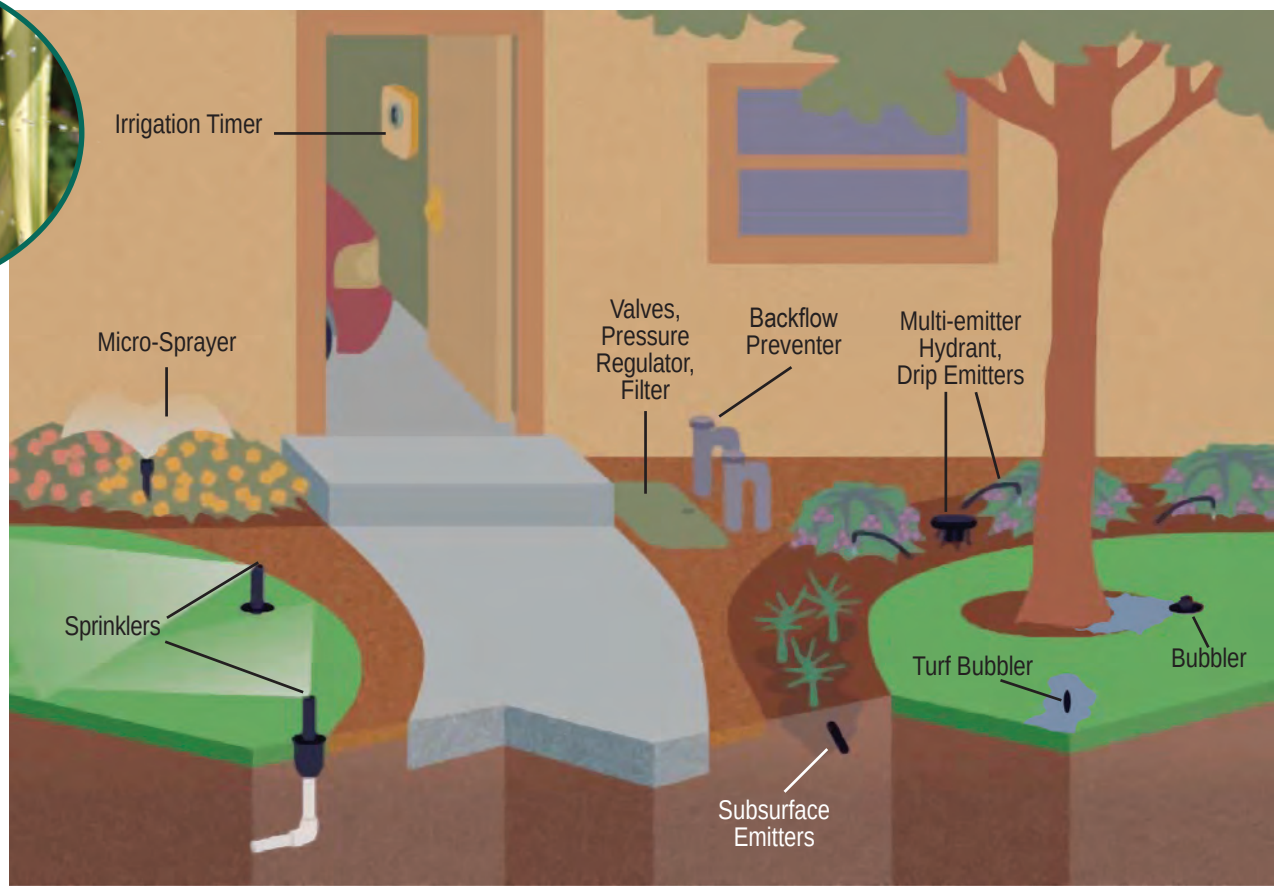
The micro-tubing delivers water to individual plants, typically from a multi-emitter hydrant.

Sprinklers

Sprinklers (also known as spray heads) are the most popular way to water a lawn. When properly used and maintained, aboveground sprinklers deliver small droplets of water to a large surface area. Sprinklers work best when water pressure is regulated to ensure that water is applied as a droplet, not as mist.

Drip Emitters

Each drip emitter connects to micro-tubing and delivers water to specific plants at a slow, consistent rate (such as one or two gallons per hour).



Professional Landscape Dripline

The professional landscape dripline applies water slowly and evenly for consistent distribution. It also includes a pressure compensation system with a built-in check valve to help prevent emitter clogging and water loss.

Drip Emitters for Pots

Use ¼-inch in-line emitter tubing to install drip emitters in potted plants at front entrances, patios, or other outdoor spaces.

Micro-sprayers

Small groupings of flowers and other modest-water-use plants can be efficiently watered with micro-sprayers, which spray water over a small, specific area.

Bubbler Emitters

Like a drip emitter, a bubbler emitter delivers water to a targeted location. Most bubblers deliver more water than a drip emitter. Bubblers are commonly used to water trees and shrubs.

Turf Bubblers

Turf bubblers are an alternative to sprinklers. They apply water at the root level, then rely on the natural wicking action of soil to evenly spread the water.

Subsurface Emitters

By delivering water directly to a plant's root zone, subsurface emitters conserve water by reducing evaporation. Subsurface systems can be used to water trees, shrubs, flower beds, and turfgrass.

Moisture or Rainfall Sensors

An automatic moisture sensor relays information to the controller so the landscape receives supplemental irrigation only when it needs it. When soil moisture is high (such as after rainfall), the moisture sensor will override a pre-set watering schedule.

Flush Valve / Cap

A flush cap, attached to the end of a drip irrigation line, can be removed so that dirt can be flushed out of the system. It's important to remove the cap when winterizing the system.

For more information

See *Landscape Irrigation Design Standards* by City of Santa Fe Water Conservation Office

https://www.santafenm.gov/document_center/document/1473

Drip Irrigation

It may take one to two years for plants to become established, and during this time they need to be watered regularly. Drip irrigation systems work especially well in xeriscapes as they allow you to water plants separately with drip emitters or water groups of plants. These efficient systems deliver small quantities of water slowly and directly to a plant's root zone and promote healthy plant growth. Water savings can easily be 50% or more versus traditional sprinkling. Drip emitters are well suited for most xeric trees, shrubs, and perennials.

Can Sprinklers Be Converted to Drip?

In many cases, existing sprinkler heads can be retrofitted to accommodate multi-line drip emitters. Keep in mind that sprinklers and drip emitters apply water at different rates (measured in gallons per minute and gallons per hour, respectively), and should be put on different irrigation valves. Remember, too, that a drip system requires a pressure regulator and filter. Drip systems require 20 PSI of water pressure, therefore, a pressure-reducing valve will be needed to protect the system. Some drip hydrants have built-in pressure regulators and filters, which makes the conversion process easier.

Drip irrigation kits (which can be used to convert vegetable gardens to drip irrigation, for example) are available at hardware stores, home centers, and nurseries. Major irrigation system conversions could be installed by professional landscape contractors and irrigation specialists or you could do it yourself.

Set up your drip system so that it drains properly to prevent freezing. Make sure it is cleaned or flushed out to prevent clogging. Your irrigation system must also meet code regulations and should have backflow preventers to protect your family's safety.

Photo courtesy of Hunter Industries Incorporated

Smart Irrigation Saves Water

No matter what kind of landscape you have, using the right type of irrigation can substantially reduce your water use. The key to smart irrigation is to give plants the amount of water they need to grow and thrive (no more, no less), and to deliver that water in the most efficient way possible. By examining your existing irrigation system, fixing leaks, and converting to efficient drip emitters and sprayheads where appropriate, you will conserve water and help preserve New Mexico's enchanting quality of life.

Many older irrigation systems have leaks that are difficult to detect. Converting an existing system downstream of the backflow prevention and abandoning old piping is not very expensive and can save water loss from leaks and avoid future repairs.

Advantages of Drip Irrigation

- Reduced runoff and evaporation
- Maintains optimal soil moisture
- Applies precise quantity of water directly to plants on set schedule
- Water savings of more than 50% compared to traditional sprinkling
- Easy installation and modification
- Relatively low cost
- Reduced weed growth

Landscape and System Maintenance

Although most successful xeriscapes are low maintenance, they aren't "no" maintenance. Keeping your xeriscape beautiful and water thrifty through a program of well-timed mowing, fertilizing, pruning, pest control, and weeding will ensure that your landscape will develop beautifully.

To ensure continued water savings, keep irrigation systems properly adjusted. Properly maintained, a well-planned xeriscape landscape requires even less work as it matures, leaving you more time to enjoy your garden. To ensure continued water savings and to maintain an effective weed barrier, keep a three- to four-inch-thick layer of mulch around your plants.

Remember that even the best designed irrigation system must be maintained to retain its optimum efficiency. Check regularly for broken sprinkler heads, leaks, clogged drip emitters or lines, and blocked sprinkler heads. Make needed repairs or modifications immediately.

Pest Control

Chemical controls may destroy many insects that are essential for pollination. Natural methods of pest control are preferred over chemical pesticides. Consider using insecticidal soaps, ladybugs, praying mantids, or installing bird houses or bat houses to encourage natural insect control.

Pruning

Typically, native plants or low-water-use shrubs do not need to be pruned the first year. Most native plants and trees have a natural form that requires little or no pruning. Pruning removes dead, diseased, or weakened branches; shapes plants; and helps stimulate plant growth. Prune when the plant is dormant in the late winter or early spring before new leaves appear. Less pruning is needed when xeriscapes are designed to accommodate the mature size of each plant. Some plants need to be continuously pruned to remain vigorous and flower.

Fertilizing

Fertilizer can provide plants with the needed nutrients to flourish. Most native plants need little or no fertilizer because they are adapted to the natural soil conditions. Often, the naturally existing soil nutrients and the addition of decomposed mulch can be sufficient. Organic mulch should be reapplied annually because the recommended thickness is reduced as it mixes with the soil. Composting creates nutrient-rich material for plants and helps retain soil moisture.

For more information

See the *Guide to the Biological Control of Some Common Yard and Garden Pest Insects in New Mexico* by NMSU.

https://aces.nmsu.edu/pubs/_circulars/CR607/

For more information on pruning

See NMSU guidance documents:

- Pruning Grapes
- Pruning the Home Orchard
- Pruning Trees

https://aces.nmsu.edu/pubs/

Or visit the Texas A&M Agrilife extension website: https://aggie-horticulture.tamu.edu/earthkind/landscape/proper-pruning-techniques/

Non-native grasses and plants need extra nutrients to flourish. Leaving lawn clippings on the turf areas will enrich the soil and reduce the need for fertilizer. Do not use fertilizer if plants look healthy and are growing properly. Only use fertilizer when necessary, and generally once in the spring and once again in early fall. Using too much fertilizer creates the need for more frequent pruning and mowing and can damage plants.

Mowing

Reducing the amount of water and fertilizer you put on your lawn will reduce how often you have to mow. Longer grass blades promote deeper rooting and shade the plant's root zone, so the grass needs less water. A good rule of thumb: never cut off more than one-third of the leaf blade. It's important to keep grass at the proper height in order to use less water. Grass clippings can be left in place to recycle nutrients into the soil. Recommended mowing height:

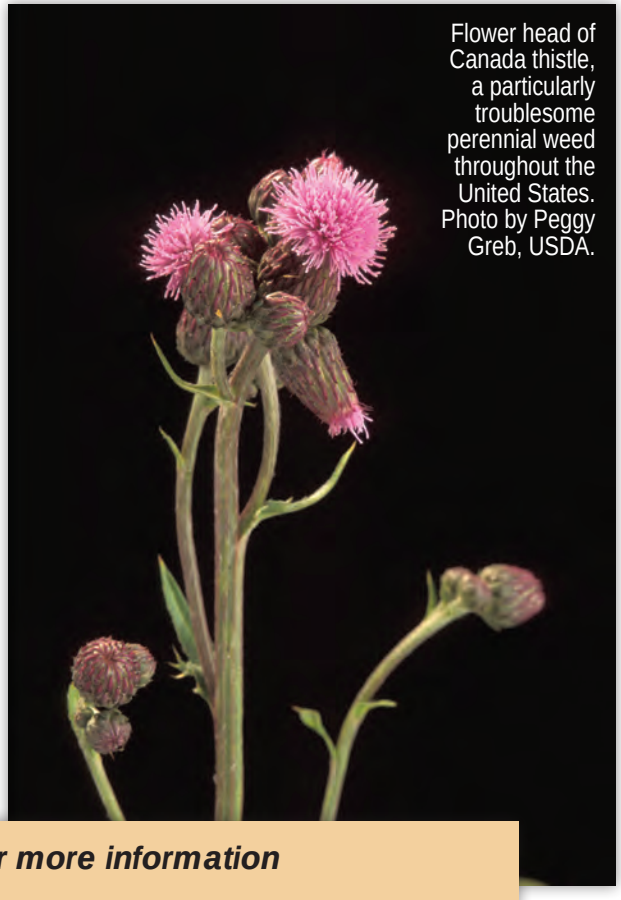
- Bermuda: 1.5 inches
- Bluegrass: 2 inches
- Buffalograss: 3.5 inches
- Tall Fescue: 3.5 inches

Weeding

Targeted watering and proper mulching discourage weed growth in xeriscapes. When creating a new xeriscape, dormant weed seeds can germinate as a result of turning the soil. You can manually remove the few weeds that do sprout, and periodically you will also need to remove leaves and other debris. Removing weeds and invasive species will keep your xeriscape healthy. The following list is a sample of weeds and invasive species commonly found in New Mexico.

Troublesome weeds and Invasive Species of New Mexico:

- Bull thistle (*Cirsium vulgare*)
- Canada thistle (*Cirsium arvense*)
- Scotch thistle (*Onopordum acanthium*)
- Diffuse knapweed (*Centaurea diffusa*)
- Cheatgrass (*Bromus tectorum*)
- Jointed goatgrass (*Aegilops cylindrica*)
- Russian olive (*Elaeagnus angustifolia*)
- Saltcedar (*Tamarix* spp.)
- Siberian elm (*Ulmus pumila*)



Flower head of Canada thistle, a particularly troublesome perennial weed throughout the United States. Photo by Peggy Greb, USDA.

For more information

See Troublesome Weeds of New Mexico by NMSU

http://www.nmda.nmsu.edu/wp-content/uploads/2012/04/troublesome_weeds_nm.pdf

Irrigation System Testing and Maintenance Checklist

For maximum efficiency, your irrigation system needs regular inspections and adjustments. Use the following checklist as a guide to routine maintenance.

Spring

- ☐ Set controller for watering times and durations. (Remember to adjust clock for the beginning of Daylight Saving Time.)
- ☐ Replace back-up battery in controller.
- ☐ Test manual shut-off/isolation valve.
- ☐ Check and clean filters.
- ☐ Check and clean screens in sprinkler heads. Adjust spray pattern to eliminate water waste due to overspray.
- ☐ Inspect all drip emitters. Clean if clogged. Make sure emitters are applying water to the entire root zone of each plant.

Summer

- ☐ Adjust controller for watering times and durations during the hottest months.
- ☐ Check and clean filters.
- ☐ Inspect all drip emitters. Clean if clogged. Make sure emitters are applying water to the entire root zone of each plant.

Late Summer

- ☐ Adjust controller to shorten watering times and durations during New Mexico's rainy season.

Fall

- ☐ Adjust controller to further shorten watering times and durations as the weather cools.
- ☐ Adjust controller clock for the end of Daylight Saving Time.
- ☐ Test manual shutoff/isolation valve.
- ☐ Check and clean filters.
- ☐ Inspect all drip emitters. Clean if clogged. Make sure emitters are applying water to the entire root zone of each plant.

Winter

- ☐ Adjust controller to further shorten watering times and durations.
- ☐ When daytime temperatures are below 40°F discontinue automatic watering.
- ☐ Ensure all lines are properly flushed and remove the flush caps.

Monthly Inspection

- ☐ Check for leaks. Inspect water lines, emitters, and sprinklers to ensure optimum efficiency. Make any needed repairs and adjustments.

Plant Information

Trees

The Beauty and Benefit of Trees

Trees are the majestic giants of nature's plant palette. Trees help anchor a well-designed landscape by providing contrast between large and small plants. The towering height of mature trees literally draws your gaze upward and lifts your spirits. Indeed, there is something inherently soothing about the strength and stability of a tree, particularly in arid and semi-arid environments where trees can be a rarity.

Trees are also a wonderful addition to a landscape for very practical reasons:

- Trees shade the soil, reducing heat and evaporation.
- Trees block wind, which also reduces evaporation.
- Trees provide cooling shade for people and wildlife.
- Trees provide shade to cool homes, thus reducing energy and evaporative cooler water use.
- Trees provide physical and mental health benefits.
- Trees add value to residential and commercial property.

Of course, trees also consume water, which is why it is important to use water-efficient techniques when irrigating and caring for trees. By giving trees the proper amount of water, when and where they need it, you can ensure that the trees in your landscape will provide both practical and aesthetic benefits for years to come.

How to Plant a Tree

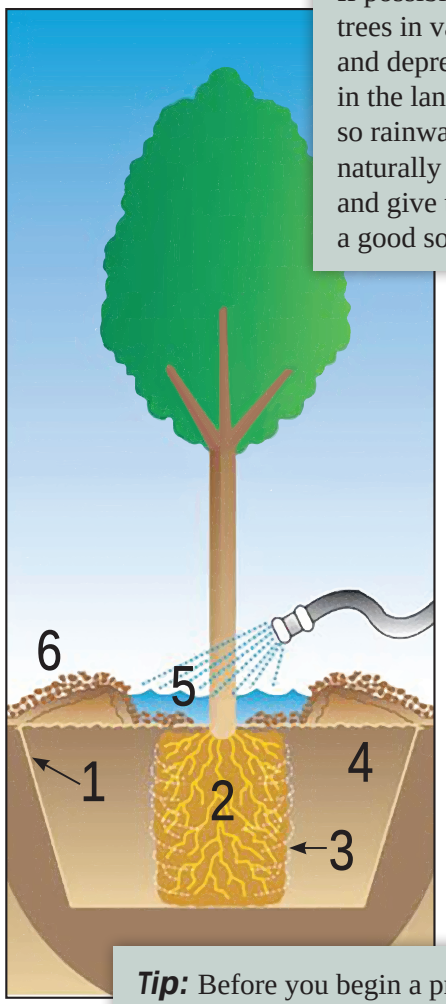
A correctly planted tree will grow more quickly, be healthier, more attractive, and probably live longer than an incorrectly planted tree. A healthy tree will also have a stronger and deeper root system that is better able to draw moisture from the soil. In the arid climates of New Mexico, a healthy tree that was properly planted is better able to withstand periodic droughts.

To plant a containerized tree, follow these steps:

1. Loosen the soil three to five times the width of the root ball (or as wide as possible) and as deep as the root ball. Tree roots grow best in loosened soil that has pore spaces for water and oxygen. The walls of the hole should be tapered.
2. Carefully remove the root ball from the container and set it on undisturbed soil in the center of the hole. The top of the root ball should be even with the soil level.
3. Trim back roots that have begun to circle the root ball.
4. Partially fill the hole with soil. Pack the soil firmly, but not tightly around the root. Water thoroughly and finish backfilling the hole with soil.
5. Build a small berm of soil around the root ball. (It should look like a "soil donut" circling the tree trunk.) Fill the berm with water two or three times to make sure the soil is completely moist. Thereafter, begin regular watering schedule.
6. Place a protective circle of mulch, three feet wide or wider, around the tree. The mulch should not touch the tree trunk.

Tip:

If possible, plant trees in valleys and depressions in the landscape so rainwater will naturally collect and give the tree a good soaking.



Tip: Before you begin a project that includes digging, you should know what's below! Call 811 before you dig, they will dispatch locators from the utilities in your area to mark the buried lines.

nm811
Know what's below.
Call before you dig.

Tips on Tree Watering in Dry Climates

Watering Newly Planted Trees

Irrigate newly planted trees at the base, making sure to wet the entire root ball area. Water as needed, perhaps as often as twice a week during the first growing season. Young trees (up to two years after planting) should continue to be watered at the base, but the diameter of the zone of wetted soil should expand outward as the tree grows. Check the soil periodically to see if it is dry; allow the soil to dry moderately between waterings.

Watering Established Trees

Established trees should not be watered at the trunk. Instead, irrigate from the dripline (the edge of the tree's leaves) outward. The distance will depend upon the size of the tree and the nature of the tree's root system. As a basic rule of thumb, apply water in a circular band that's at least half as wide as the distance from the trunk to the dripline.

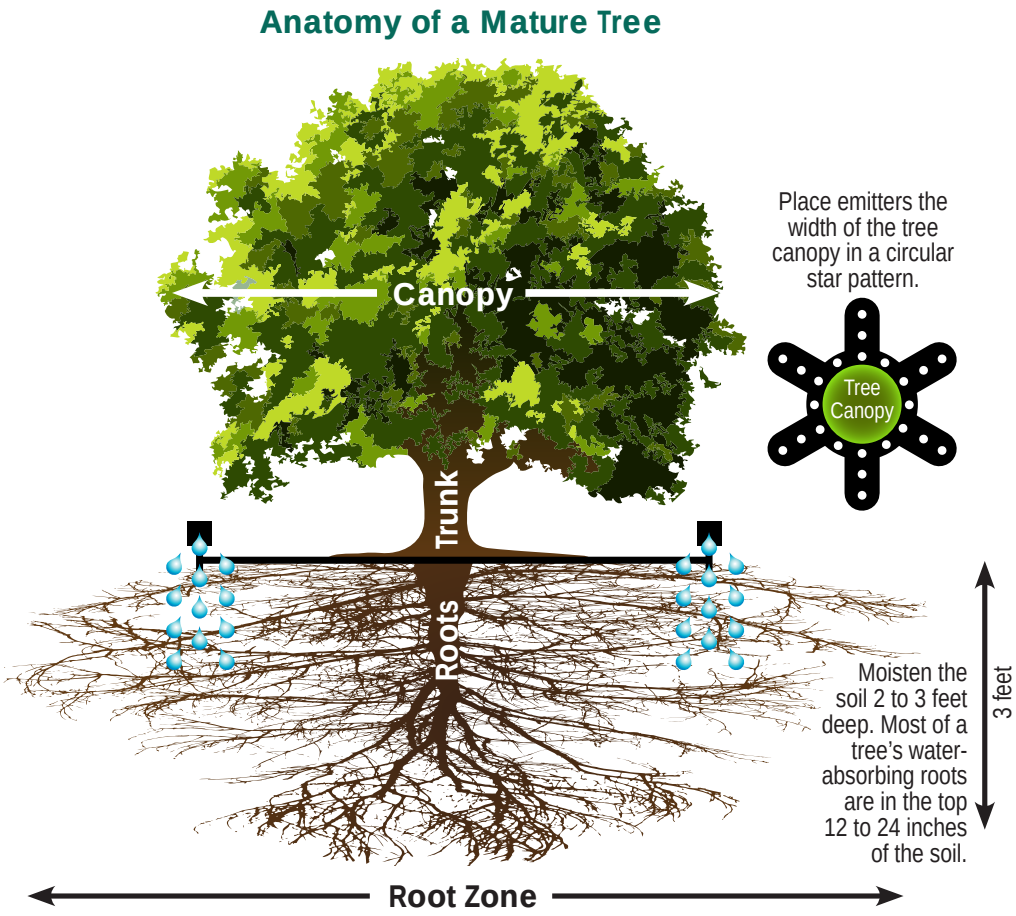
How the water is applied is just as important as *where* the water is applied. Trees prefer to be watered slowly and deeply. Spray irrigation (sprinklers) is great for lawns but not for watering trees. Instead, use a bubbler, multiple drip emitters, professional landscape drip line, or a hand-held hose to deliver water to the tree's root zone. Moisten the soil two to three feet deep each time you water, and let the surface dry between waterings. Use a soil probe (see Is It Time to Water Yet) to determine the depth of the moistened soil. If the soil is only moist to a depth of one foot, keep watering. Remember, deep watering encourages deep rooting, and deep roots are the best way for a tree to survive a drought. Irrigate established trees once every two weeks during the growing season and once a month during the dormant season.

Irrigating Trees in Drought

During times of drought, a lack of moisture can cause trees to suffer from drought stress. One early sign of drought stress is wilted leaves. Another sign is leaf scorching, when the edges of leaves or the space between a leaf's veins turn brown. When a tree begins to exhibit signs of drought stress, irrigation must begin immediately to avoid long-term damage to the tree.

In times of drought and water restrictions, trees should be given priority over other landscape plants, including lawns. Why? It takes 20 years of growth for a newly planted tree to reach the size of an existing 20-year-old tree. A turfgrass lawn left unwatered will naturally go dormant for the season and turn brown, but it may turn green again when rain falls or irrigation is reintroduced. Even if reseeding or resodding is necessary, a lawn can often be re-established in a single season—a large tree cannot.

Remember: during a drought, the goal of irrigation should be sustaining the tree, not watering for maximum growth. To conserve water, stop all irrigation during precipitation! Before resuming a scheduled irrigation, check the depth of the wet soil and apply only enough water to moisten two or three feet deep.



Tree Basics

Trees are slower to establish than most other landscape plants, so they need special consideration when it comes to irrigation. Newly planted trees will typically require more frequent watering than established trees. Although they don't need to be watered as often, large established trees need a larger volume of water (in gallons) than younger trees to stay healthy enough to avoid disease and resist insect pests.

Depending upon the type of tree, its age, its root structure, and the type of soil it is growing in, a tree's roots can extend in width more than three times the height of the tree and grow three feet or more in depth. When watering trees, water slowly and deeply. It's important to get the water deep into the soil where the tree roots can absorb it. Place emitters the width of the tree canopy in a circular star pattern.

Is It Time to Water Yet?

The best way to determine if a tree needs to be watered is to check the soil with a soil probe. A soil probe can be inserted into moist soil, but it will stop when it hits dry soil. Measure how far the soil probe can pass through the soil and you'll know how deeply the water has penetrated.

How to Build a Simple Soil Probe

Get a four-foot-long piece of ½-inch thick steel rebar. (It's typically used to reinforce concrete.) Get a one-foot-long piece of one-inch diameter steel pipe. Drill a hole in the middle of one side of the pipe, just big enough to insert the end of the rebar. Apply some epoxy or another type of heavy-duty glue to the end of the rebar and insert it into the steel pipe. Round the end of the rebar so it's not so blunt and will be easier to insert into the soil. (A long [18-inch] flathead screwdriver can also serve as a quick soil probe.)

To check the depth of moistened soil, simply push the probe into the ground. It will stop when it hits dry soil, tree roots, or irrigation lines—so be careful when you use it!

Tip: Call 811 before probing or digging.

Questions and Answers

Should trees be watered in the winter?

In New Mexico, trees should be given a deep watering once a month during the winter when temperatures are at or above 40°F (5°C)—but only if rainfall or snowfall doesn't provide enough natural moisture for a once-a-month soaking. Use a soil probe—if it won't penetrate because the soil is frozen, don't water!

When does the "growing season" for trees begin?

The active growing season begins in the late winter or early spring when the buds of deciduous trees (those that lose their leaves in the autumn) begin to swell. Water once when the buds have swelled. Begin regular watering when leaves appear.

How often should trees be watered during the growing season?

A good rule of thumb is to make sure your trees get watered every two weeks during the growing season, from springtime to early fall. (Sometimes Mother Nature takes care of the watering for you, so don't water after a heavy soaking rain!) When temperatures begin to cool off around Labor Day, cut back your watering to once every three weeks.

When does the active growing season end?

Typically, trees stop growing after the first frost (when temperatures dip below 32°F at night). At this time, you should cut back your watering to once a month if nature doesn't provide the moisture for a good monthly soaking.

Tip: Save water! Trees that are adapted to dry climates need less irrigation once established.

For information on trees adapted to your Climate Area, refer to the New Mexico Plant List: http://wuc.ose.state.nm.us/Plants/

Trees for New Mexico

What kinds of trees thrive in New Mexico's semi-arid climate? That question is not as simple as it sounds. New Mexico has more than one climate; the trees that thrive in the cooler mountainous areas are dramatically different from those that thrive in the hot southern deserts (see Identify Your Climate Area).

Here's a very small sampling of low-water-use trees that grow in the Land of Enchantment.

Desert Willow (*Chilopsis linearis*)

Size: 20' high by 25' wide

Flower Color: Pink

Bloom Season: Summer

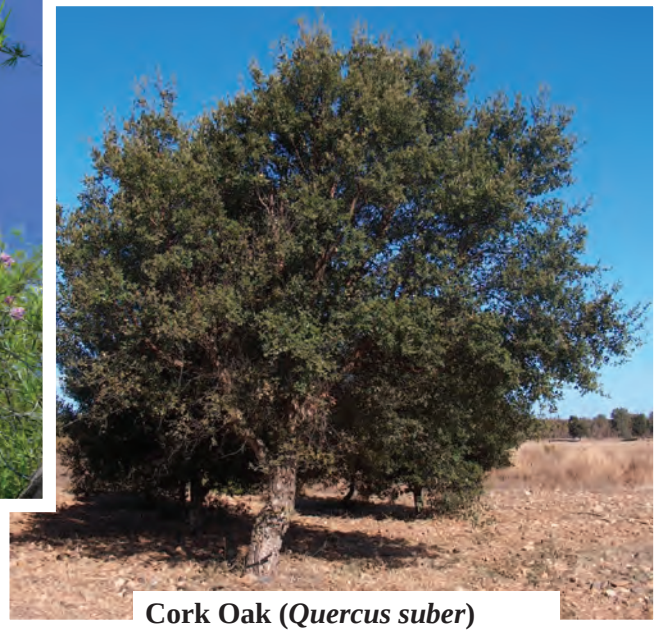
Animal Attractions: Aphids, birds, hummingbirds and mites

Notes: Medium-sized flowers in purple/white. 6000' adapted and in some higher urban areas

Soil: Adapted to a wide range of soils

Sun Exposure: Full Sun

Climate Areas: North/Mountain, Central, and South



Cork Oak (*Quercus suber*)

Size: 30' high by 30' wide

Animal Attractions: Bees

Soil: Well-drained soil

Sun Exposure: Sun/Shade

Climate Areas: Central and South

Ponderosa Pine (*Pinus ponderosa*)

Size: 40' high by 20' wide

Notes: Insect prone due to heat and drought

Soil: Well-drained soil

Sun Exposure: Sun/Shade

Climate Areas: North/ Mountain and Central

Shrubs

Shrubs make xeriscape come alive. Rooting deeply, they often require less water per square foot than other plants. Their colorful flowers, foliage, and fruits add beauty as well as nectar and seeds to enhance habitat for birds and butterflies. They also provide function as they shade the soil and offer layers of cover.

Shrubs can become the walls of your garden, creating smaller outdoor rooms within the larger landscape. They can also block unsightly features and provide wind protection. Many shrubs have aromatic leaves and scented flowers that perfume the air around them. Allow the visual beauty and aroma of shrubs to boost your mood as you enjoy your outdoor living space.

Fairy Duster (*Calliandra eriophylla*)

Size: 4' high by 3' wide

Flower Color: Pink

Bloom Season: Spring

Animal Attractions: Bees and rabbits

Notes: Slender stems with finely textured foliage

Soil: Well-drained soil

Sun Exposure: Full Sun

Climate Area: South

English Lavender (*Lavandula angustifolia*)

Size: 2’ high by 2’ wide

Flower Color: Purple

Bloom Season: Spring

Soil: Well-drained soil

Sun Exposure: Full Sun

Climate Areas: North/ Mountain and Central

Desert Cassia (*Senna nemophila*)

Size: 6' high by 6' wide

Flower Color: Yellow

Bloom Season: Spring

Soil: Well-drained soil

Sun Exposure: Full Sun

Climate Areas: South

Cacti / Succulents / Desert Accents

Cacti and succulents are xeriscape champions. Accustomed to hot, dry climates, they are some of the most xeric plants on earth. Plus, they are easy to grow!

Agaves, called century plants because it can take decades for them to flower, are prime examples of the sculptural qualities of these desert accents. When it rains, watch the wide agave leaves funnel rainwater toward its roots. It's an elegant water-harvesting device.

An unexpected bonus of these rugged survivors is the brilliant show of flowers they produce. From tree-sized to tiny, with flowers from screaming scarlet to hot magenta to soft pink and lemon yellow, there are cacti and succulents for every hot, dry spot in the garden.

Century Plant
***(Agave americana*)**

Size: 6' high by 10' wide

Flower Color: Yellow

Soil: Well-drained soil

Sun Exposure: Full Sun

Climate Areas: Central and South

Prickly Pear (*Opuntia* spp.)

Size: 5' high by 8' wide

Flower Color: Pink, Yellow, or Orange

Bloom Season: Spring

Soil: Adapted to a wide range of soils

Sun Exposure: Full Sun

Climate Areas: North/Mountain, Central, and South

Spanish Dagger / Spanish Bayonet (*Yucca aloifolia*)

Size: 6' high by 5' wide

Flower Color: White

Bloom Season: Spring

Notes: Most often stays single-stemmed rosette

Soil: Well-drained soil

Sun Exposure: Full Sun

Climate Areas: Central and South

Perennials

Color makes xeriscape pop! The New Mexico Plant List has over 200 flowering perennials, bulbs, annuals, and groundcovers to brighten and perfume your garden whether it's sunny or shady. Hummingbirds and butterflies are attracted to the nectar of many of these plants. With so many options to choose from, use the mature size, light exposure, water use, and climate area-adapted information in selecting the combinations of flowers best suited to your planting spaces and style.

While many of these flowering plants are nearly as long-lived as shrubs and take up almost as much space, others are smaller in stature and have a two- to ten-year lifespan that allows you to change the look of some spaces without a big investment in time or money. Xeric flowering plants are also ideal for planting in pots to dress up your patio or front entrance when that uncontrollable urge to play in the dirt strikes.

Most xeric wildflowers can be watered deeply and infrequently once they are well rooted, but some flowers will need irrigation every week or 10 days throughout summer, with the water penetrating the soil to a depth of two feet.

Creating Habitats That Attract Wildlife

Both wildlife and people enjoy these features that transform gardens from good to great:

- **Layers of planting:** Add interest and beauty to your landscape by incorporating layers of plants, from tall tree canopies to low-growing groundcovers.
- **A mix of dense vegetation in some areas and open spaces in others:** Use groups of shrubs, flowers, and grasses of different heights clustered along the edges of open space.
- **A diverse community of plants:** Attract wildlife to your garden with colorful, fragrant, nectar-rich flowers, edible fruits, and seeds.
- **The cooling presence of water:** A small water feature, especially one located in a shady spot that trickles water into a covered reservoir so evaporation is minimized, will attract wildlife and people without wasting water.

Gardens that serve wildlife have their own set of maintenance needs.

1. Refill and regularly clean bird seed and nectar feeders.
2. With just a modest amount of water and pruning/deadheading, nectar- and seed-producing plants will continue to provide sustenance for wildlife even after birds have taken all the food.
3. Manage your garden with little or no pesticide use, which is good for your health, as well as that of animals.
4. Remember to wash away bird droppings occasionally.
5. Remove any volunteers that may have germinated courtesy of our feathered friends' free fertilizer.

Scarlet Globemallow (*Sphaeralcea coccinea*)

Size: 12" high by 24" wide

Flower Color: Orange

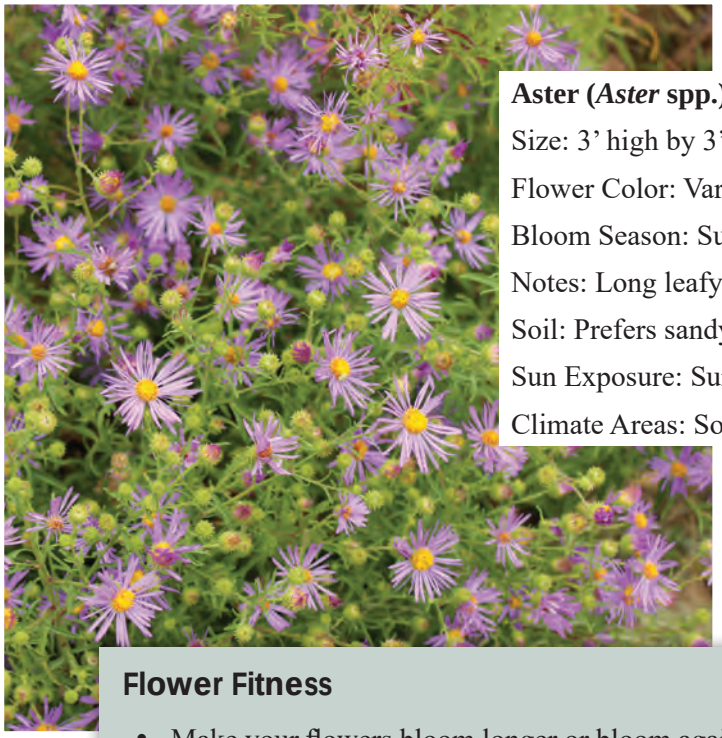
Bloom Season: Spring

Notes: Root-sprouts

Soil: Well-drained soil

Sun Exposure: Sun/Partial Shade

Climate Areas: North/ Mountain, Central, and South



Aster (*Aster* spp.)

Size: 3' high by 3' wide

Flower Color: Variable

Bloom Season: Summer

Notes: Long leafy stalks

Soil: Prefers sandy soil

Sun Exposure: Sun/Partial Shade

Climate Areas: South

Blue Mist Flower (*Conoclinium greggii*)

Size: 2' high by 3' wide

Flower Color: Purple/Blue

Bloom Season: Spring and Fall

Animal Attractions: Butterflies

Notes: Spreads by underground rhizomes

Soil: Well-drained soil

Sun Exposure: Sun/Partial Shade

Climate Area: South

Flower Fitness

- Make your flowers bloom longer or bloom again. Remove the spent flower stems once the blossoms fade (also called deadheading) and after a short rest, you'll be welcoming them back.
- Wildflowers, such as penstemon, may be longer-lived if the spent flower stems are removed before the plants put energy into producing seeds.
- Unwanted self-sowing can also be prevented by cutting back plants after they bloom and before they form seeds.
- Flowers in habitat gardens may be allowed to set seeds to provide food for wildlife and cut back after the feast is over.
- Giving your plants an extra deep watering or two may keep plants in bloom longer, especially if the weather has been hot and windy with little rain.

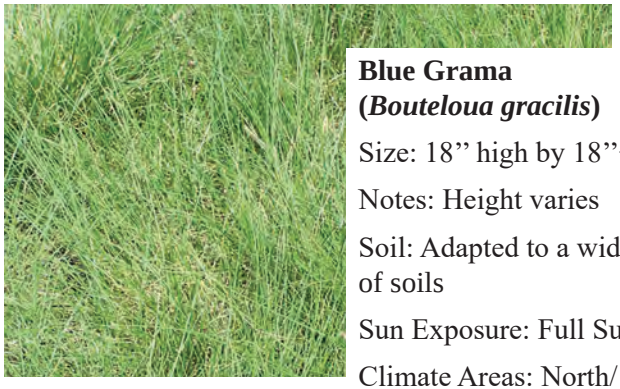
Grasses

Turf grasses

Non-native turf grasses such as Kentucky bluegrass, fescues, and even Bermuda grass require tremendous amounts of water to thrive (as much as 40 inches of water per growing season in the case of Kentucky bluegrass). Planting thirsty grasses native to the southeast doesn't make sense in New Mexico.

Lower-water alternatives including buffalo grass (*Bouteloua dactyloides*) and blue grama grass (*Bouteloua gracilis*) are good choices for New Mexico. These grasses can be complemented with ornamental grasses in your landscape. Regardless of the types of grasses you plant, remember to follow these steps to maximize watering efficiency.

- Prepare the soil before planting by tilling as deeply as possible.
- Add copious amounts of compost to improve the ability of the soil to hold moisture.
- Water during the coolest part of the day and when winds are calm, to minimize evaporation and overspray.



Blue Grama
(*Bouteloua gracilis*)

Size: 18'' high by 18''+ wide

Notes: Height varies

Soil: Adapted to a wide range of soils

Sun Exposure: Full Sun

Climate Areas: North/ Mountain, Central, and South

Ornamental Grasses

Ornamental grasses, unlike lawns, serve as gardening focal points and can add interest in areas that need a little boost. Summer through early winter is the prime time for the soft textures and colors of ornamental grasses. They should be cut down as close to the ground as possible each spring so the new blades can emerge unencumbered by the previous year's dead leaves. This pruning causes gaps in the landscape for several weeks, so place the larger grasses as you would shrubs of the same size, mixing in some evergreens or grassy succulents, such as yucca or beargrass, to create interest while the grasses regrow.

Gulf Muhly
(*Muhlenbergia capillaris*)

Size: 3' high by 3' wide

Seed Head Color: Purple

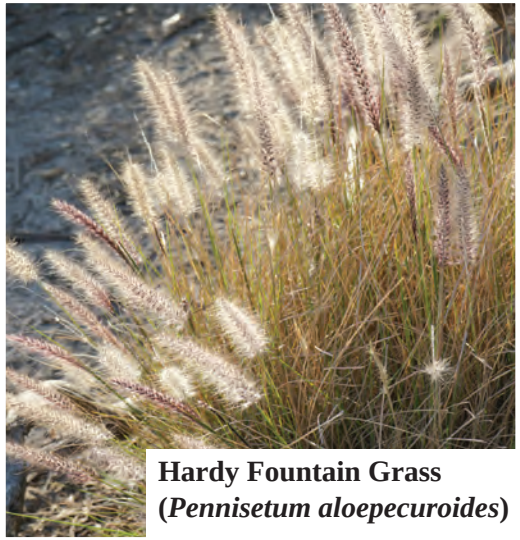
Bloom Season: Late Summer

Notes: Purple seed heads in late fall

Soil: Adapted to a wide range of soils

Sun Exposure: Sun/Partial Sun

Climate Areas: Central and South



Hardy Fountain Grass
(*Pennisetum aloepecuroides*)

Size: 2' high by 2' wide

Seed Head Color: Brown

Bloom Season: Summer

Soil: Adapted to a wide range of soils

Sun Exposure: Full Sun

Climate Areas: North/Mountain and Central

For more information

See the Lean & Green Brochure produced by the New Mexico Office of the State Engineer

http://www.ose.state.nm.us/WUC/PDF/Lean-Green2004.pdf

Groundcovers

A groundcover can be any plant or group of plants that is low-growing and aggressive enough to strongly compete with nearby plants. These beautiful plants can thrive in sun or shade and can be used almost any place you don't want grass to grow. They can be carpet-like, growing only a few inches high and a few feet wide, or they can be large shrubs that grow only knee-high but spread several feet wide. These cheerful natural "outdoor rugs" will brighten your day, and your landscape.

For best results, visit the New Mexico Plant List and select the size indicated in the plant list with the size of space you want to cover. The smallest mat-forming plants work well between stepping stones where the paving buffers foot traffic and collects extra moisture for the groundcover. Shade-loving groundcovers are perfect for replacing lawns under mature trees, and shrubby groundcovers with the largest spread are a great way to reduce watering and eliminate mowing in large open areas.

Ground Morning Glory
(*Convolvulus mauritanicus*)

Size: 1' high by 3' wide

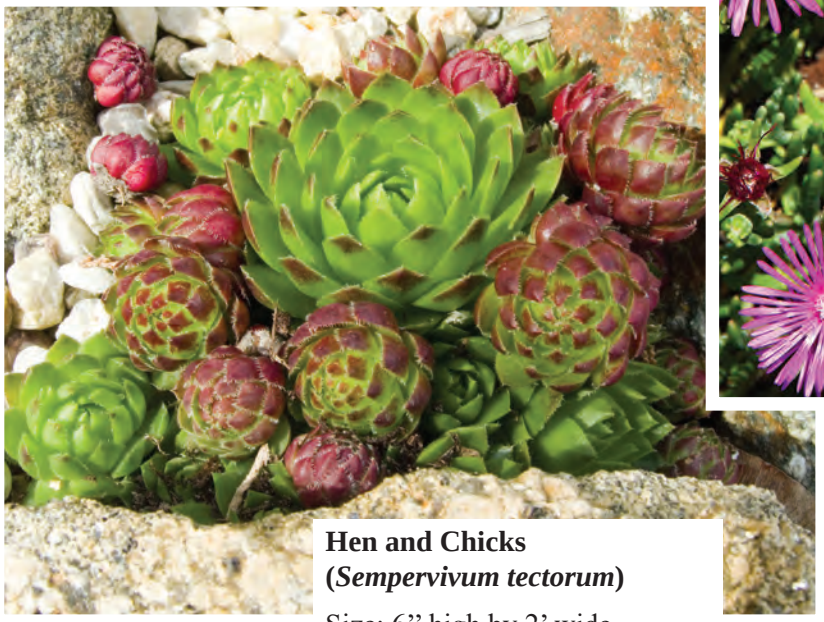
Flower Color: Blue

Bloom Season: Spring

Soil: Well-drained soil

Sun Exposure: Full Sun

Climate Area: South



Hen and Chicks
(*Sempervivum tectorum*)

Size: 6" high by 2' wide

Flower Color: Variable

Bloom Season: Summer

Soil: Well-drained soil

Sun Exposure: Sun/Partial Sun

Climate Areas: North/Mountain and Central

Purple Iceplant
(*Delosperma cooperi)*

Size: 4" high by 24" wide

Flower Color: Magenta

Bloom Season: Summer

Animal Attractions: Rabbits

Notes: Blooms all summer. Rarely bothered by deer

Soil: Prefers sandy soil

Sun Exposure: Sun/Partial Sun

Climate Areas: North/Mountain and Central

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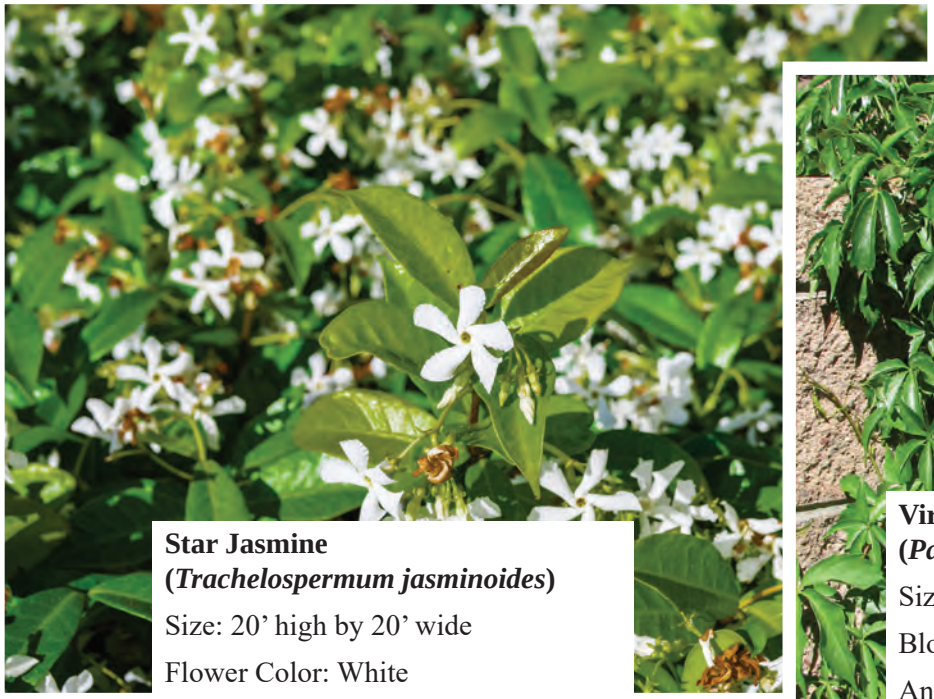
Vines

Vines are a great option for your landscape design when you don't have the time or space needed to grow shade trees and you want to spend time outdoors and desire a cool, shady place to retreat. Building an arbor and planting a vine to provide a cool leafy canopy may be a solution. Be sure to build the shade cover large enough to shelter the space needed and high enough (typically nine feet above the patio floor) so that as the vine drapes, there's still plenty of headroom underneath.

Vines wrapped around a trellis against a wall can fit spaces too narrow for shrubs of the same height. Just remember to check the mature sizes so that you don't plant a Great Dane where you needed a Chihuahua.



Star Jasmine
(*Trachelospermum jasminoides*)

Size: 20' high by 20' wide

Flower Color: White

Bloom Season: Spring

Animal Attractions: Insects and mites

Notes: Fragrant

Soil: Adapted to a wide range of soils

Sun Exposure: Partial Shade

Climate Areas: Central and South

Virginia Creeper
(*Parthenocissus quinquefolia*)

Size: 40' wide

Bloom Season: Spring

Animal Attractions: Birds and insects. Attracts leafhoppers

Notes: Vigorous, tendriled climbing vine. Red fall color

Soil: Adapted to a wide range of soils

Sun Exposure: Sun/Partial Sun

Climate Areas: North/Mountain and Central

Trumpet Vine
(*Campsis radicans*)

Size: 40' wide

Flower Color: Orange

Bloom Season: Summer

Animal Attractions: Beetles and hummingbirds

Notes: Vigorous, fast growing vine. Cultivar 'Flava' has yellow blooms

Soil: Well-drained soil

Sun Exposure: Full Sun

Climate Areas: North/ Mountain, Central, and South

New Mexico Plant List

In an effort to instruct New Mexicans in the art of using outdoor water more efficiently, the New Mexico Office of the State Engineer, in collaboration with the U.S. Bureau of Reclamation, established this expert-recommended list of low-water-use native or adaptive plants that thrive in our climate and save water.

The plants on the following pages are arranged by Climate Area (North/Mountain, Central, and South). Find your climate area and then find the plants that are perfect for your garden.

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Key for plant information on the following pages

Water Use	Sun Exposure	Soil Type	Bloom Period
L Low	1 Full Sun	1 Well-drained soil	1 Early Spring
M Medium	2 Sun/Partial Sun	2 Prefers sandy soil	2 Spring
H High	3 Shade	3 Adapted to a wide range of soils	3 Summer
	4 Sun/Shade	4 Moist, well-drained soil	4 Late Summer
	5 Sun/Partial Shade	5 Tolerates clay soil	5 Fall
	6 Partial Shade	6 Prefers enriched soil	6 All Season
	7 Partial/Full Shade		7 N/A
			8 Spring and Fall

A beautiful xeriscape starts with a good design. Think of the physical characteristics of the site, your needs, and aesthetic preferences when choosing your plants.

Sun

What portions of the property receive hot afternoon sun? What portions receive morning sun and afternoon shade? The extent of sun and time of exposure will affect the types of plants you choose.

Function

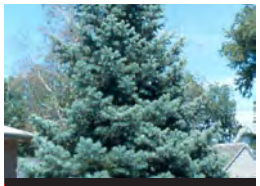
Do you need an outdoor living area? If so, consider expanding the patio area with additional shade structures and low-water-use trees to provide privacy.

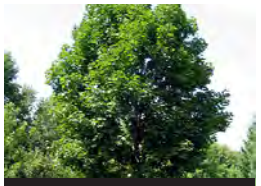
Views

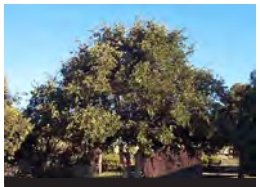
Are there views you want to protect or block? Know the mature size of the plants you select to ensure the views and screening you desire.

Time

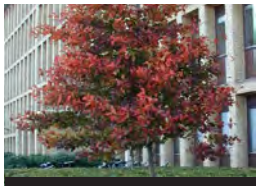
How much time are you willing to spend maintaining your landscape? If you'd rather enjoy your yard than work in it, choose low-maintenance plants. A well-planned design enables you to convert to water-efficient landscaping quickly or to install your xeriscape in phases. Whether you create your own design or enlist the help of a landscape design professional, a properly designed xeriscape can help meet your lifestyle needs.


White Fir


Norway Maple


Netleaf


Eastern Redbud

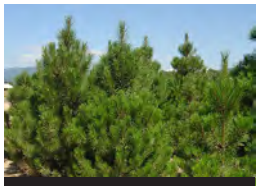

Thornless Cockspur Hawthorn

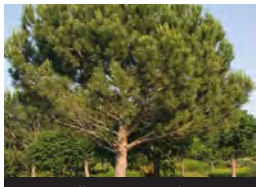

New Mexico Olive


Alligator Juniper

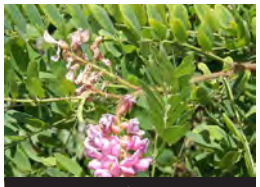

Golden Rain Tree


Bristlecone Pine


Austrian Pine


Italian Stone Pine


Western Honey Mesquite


New Mexico Locust


American Smoketree

Climate Area 1: North/Mountain

	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Trees	White Fir (Abies concolor)	50’×20’	E	M	1	4		
	Norway Maple (Acer platanoides)	50’×50’	D	M	4	3	5	Roots heave paving. Flower Color: Yellow
	Netleaf (Celtis reticulata)	25’×25’	D	L	1	3	2	
	Eastern Redbud (Cercis canadensis Mexicana)	25’×15’	D	M	1	1	1	Edible flowers. Attracts leaf-cutting bees. Flower Color: Pink
	Western Redbud (Cercis occidentalis)	12’×12’	D	M	4	1	1	Slow growth. Flower Color: Pink
	Thornless Cockspur Hawthorn (Crataegus crus-galli Inermis)	20’×25’	D	M	1	5	3	Prefers cooler microclimates. Flower Color: White
	New Mexico Olive (Forestiera neomexicana)	15’×15’	D	L	4	2	2	Pest resistant and edible fruit. Flower Color: Yellow
	Alligator Juniper (Juniperus deppeana)	60’×40’	E	L +	1	1		Gorgeous!
	Golden Rain Tree (Koelreuteria paniculata)	25’×25’	D	L +	1	3	3	One of the few trees in North America with early summer yellow blooms. Flower Color: Yellow
	Bristlecone Pine (Pinus aristata)	30’×20’	E	M	1	1		Slow growing
	Pinon Pine (Pinus edulis)	30’×20’	E	L	1	1		Attracts the Pine Tip Moth
	Austrian Pine (Pinus nigra)	35’×25’	E	L +	4	1		
	Italian Stone Pine (Pinus pinea)	60’×50’	E	M	4	1		Attracts Pine Tip Moths, aphids and spider mites
	Western Honey Mesquite (Prosopis glandulosa Torreyana)	18’×25’	D	L	1	1	3	Large white thorns, long yellow to red seed pods, distinguish this plant. Flower Color: Yellow
	American Plum (Prunus americana)	20’×20’	D	M	1	6	2	All prunes are susceptible to borers if water-stressed. Flower Color: White
	New Mexico Locust (Robinia neomexicana)	25’×15’	D	M	1	1	3	Upright growing. Medicinal shrub or tree. Flower Color: White
	Western Soapberry (Sapindus drummondii)	30’×25’	D	L +	2	3		Good in run-off catchments
	Western Redbud (Cercis occidentalis)	12’×12’	D	M	4	1	1	Slow growth
	American Smoketree (Cotinus obovatus)	15’×30’	D	M	1	3	3	Flower Color: Orange

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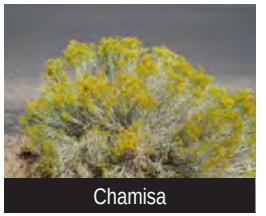
	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Shrubs	Utah Serviceberry (Amelanchier utahensis)	8’×12’	D	L +	1	1	2	Valuable food source for wildlife. Flower Color: White
	False Indigo (Amorpha fruticosa)	10’×10’	D	M	4	3		Large lacey foliage. Valuable habitat. Flower Color: Purple
	Desert Broom (Baccharis salicina)	5”×6”	E	M	1	6	5	Prone to wind breakage. Flower Color: White
	Curl Leaf Mountain Mahogany (Cercocarpus ledifolius)	10’×6’	E	L	1	1	1	E shrub or tree with light gray bark. Flower Color: Yellow
	Chamisa (Chrysothamnus nauseosus)	6’×6’	D	L	1	2	5	Self-sows prolifically. Flower Color: Yellow
	Feather Dalea (Dalea formosa)	3’×3’	D	L	1	2	3	Round, upright to spreading shrub. Flower Color: Purple
	Blue Stem Joint Fir (Ephedra equisetina)	5’×7’	E	L	1	1	3	Beautiful texture. Flower Color: Yellow
	Apache Plume (Fallugia paradoxa)	6’×7’	E	L	1	3	2	Upright, multi-branched shrub. Feathery pink seed head. Flower Color: White
	Sea Buckthorn (Hippophae rhamnoides)	30”×30”	D	M	1	3	2	Willowy silver-green foliage and red plants. Flower Color: Yellow
	Juniper (Juniperus squamata)	2’×3’	E	L	1	1		Shrub varieties
	Broom Dalea (Psorothamnus scoparius)	3’×5’	D	L	1	1	3	Fragrant. Flower Color: Blue
	Upright Rosemary (Rosmarinus officinalis)	6’×6’	E	L	1	1	8	Culinary herb. Flower Color: Blue
	Weigela (Weigela florida)	6’×6’	D	M	1	1	2	Flower Color: Pink
	Giant Flowered Purple Sage (Salvia pachyphylla)	3’×3’	D	L	1	1	3	Sandy loam or clay loam. Flower Color: Pink
	Wax Flower (Jamesia americana)	2’×2’	D	L +	4	1	2	Needs cool summer temperature. Flower Color: White
	Rock Sage (Salvia pinguifolia)	5’×4’	D	M	5	1	4	Aromatic leaves. Flower Color: Purple
	Coffeeberry (Rhamnus californica var. Ursina)	6’×8’	E	L +	1	1	3	Flower Color: White
	Crandall Clove Currant (Ribes odoratum)	5’×5’	D	M	4	4	2	Flower Color: Yellow


Utah Serviceberry


Desert Broom


Curl Leaf Mountain Mahogany


Chamisa


Feather Dalea


Blue Stem Joint Fir


Sea Buckthorn


Upright Rosemary


Weigela


Giant Flowered Purple Sage

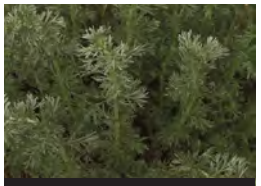

Wax Flower

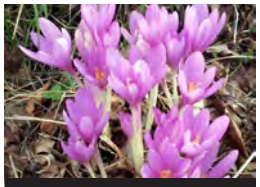

Rock Sage

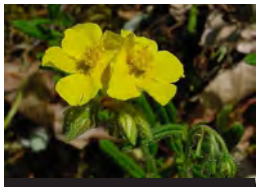

Coffeeberry


Crandall Clove Currant

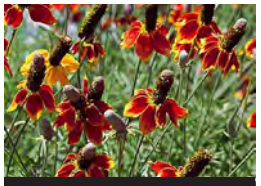

Thrift

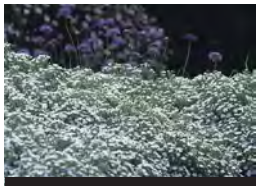

Fringed Sage


Autumn Crocus

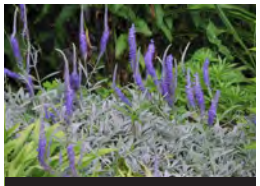

Sunrose

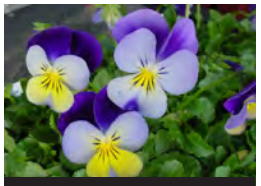

Four-O'Clock


Mexican Hat

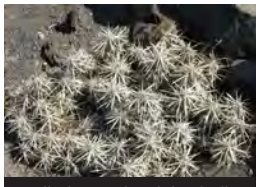

Soapwort

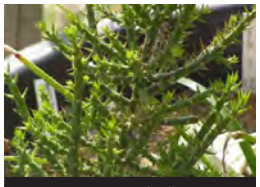

Western Vervain

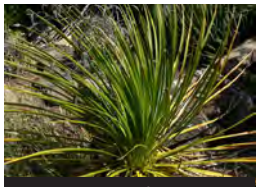

Silver Speedwell


Tufted Violet


Utah Agave


Cylindropuntia Club Cholla


Desert Cholla


Sotol

Climate Area 1: North/Mountain

	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Perennial	Thrift (Armeria maritima)	12”×12”	E	M	5	3	3	Flower Color: Variable
	Fringed Sage (Artemisia frigida)	12”×18”	D	L	1	1	3	Low growing groundcover. Slender stems. Fine silvery foliage
	Autumn Crocus (Colchicum autumnale)	6”×6”	D	L	2	4	4	Late blooming bulb. Very toxic. Flower Color: Pink
	Sunrose (Helianthemum nummularium)	6”×12”	E	L +	1	1		Flower Color: Variable
	Four-O'Clock (Mirabilis jalapa)	4’×4’	D	M	2	2	3	Invasive, difficult to contain. Annual in North. Flower Color: Magenta
	Mexican Hat (Ratibida columnifera)	18”×2’	D	L	4	6	3	Flower Color: Red and bicolor
	Soapwort (Saponaria ocymoides)	9”×18”	D	M	5	3	2	Flower Color: Pink
	Western Vervain (Glandularia wrightii)	12”×18”	D	L	1	1	6	Flower Color: Purple
	Silver Speedwell (Veronica incana)	12”×12”	Semi-E	L +	1	3	2	Most xeric Veronica. Flower Color: Blue
	Tufted Violet (Viola cornuta)	8”×12”	E	M	3	6	8	Planted for winter color. Flower Color: Variable
	West Texas Grass Sage (Salvia reptans)	5”×18”	D	L	1	1	4	Flower Color: Blue
	Angelita Daisy (Tetraneuris acaulis)	1’×1’	D	L	1	1	2	Self-sows nicely. Flower Color: Yellow
	Desert Globemallow (Sphaeralcea ambiqua)	2’×3’	Semi-E	L	1	1	1	Herbaceous. Attractive downy leaves. Color can also be pink or white. Flower Color: Orange
Desert Accents	Utah Agave (Agave utahensis)	10”×20”	E	L	4	1		'Monocarpic', edible and medicinal. Flower Color: Yellow
	Cylindropuntia Club Cholla (Grusonia clavata)	4”×3’	E	L	1	1	3	Flower Color: Yellow
	Desert Cholla (Cylindropuntia leptocaulis)	6’×8’	E	L	1	1	3	Red fruit in autumn. Flower Color: Yellow
	Sotol (Dasylirion leiophyllum)	6’×4’	E	L +	4	2	2	Flower Color: White
	Blue Sotol (Dasylirion wheeleri)	5’×5’	E	L	1	2	2	Flower Color: White
	Beargrass (Nolina texana)	5’×6’	E	L	1	1	2	Flower Color: White
	Desert or Engelmann Prickly Pear (Opuntia engelmannii)	5’×8’	E	L	1	3	2	Flower Color: Yellow
	Brownspine Prickly Pear (Opuntia phaecantha)	3’×5’	E	L	1	3	2	Flower Color: Yellow

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	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Desert Accents	Starvation Prickly Pear (Opuntia polyacantha)	1'×3'	E	L	1	3	2	Flower Color: Yellow
	Bailey (Yucca baileyi)	1'×2'	E	L	1	3	2	Good for small spaces and containers. Flower Color: White
	Adams Needle Yucca (Yucca filamentosa)	3'×3'	E	L +	4	1		
	New Mexico Yucca (Yucca neomexicana)	12"×12"	E	L	1	1	3	Flower Color: White
	Blue Yucca (Yucca rigida)	4'×4'	E	L	1	1		
	Thompson Yucca (Yucca thomsoniana)	8'×6'	E	L	1	1	3	Many-headed. Flower Color: White
	Dwarf Beargrass (Nolina lindheimeriana)	3'×3'	E	L	1	5	2	Flower Color: White
Turf Grass	Blue Grama (Bouteloua gracilis)	18"×18"+	D	L	1	3		Height varies
	Buffalograss (Bouteloua dactyloides)	6"×12"+	D	L	1	6		Sod forming, warm season grass. Often mowed. Flower Color: Yellow
	Bermuda Grass (Cynodon dactylon)	2"×12"+	D	M	1	1		Warm season grass. Often mowed. Sod forming
	Sheeps Fescue (Festuca ovina)	1'×1'+	E	M	3	1		Un-mowed grass groundcover. Bunchgrass
	Tall Turf-Type Fescue (Festuca spp.)	1'×1'+		M	5	1		Variable cool season grasses
	Zoysia grass (Zoysia spp.)	1'×3'+		M	1	1		
Ornamental Grass	Western Wheatgrass (Pascopyrum smithii)	2'×2'	D	L +	4	6	3	Nutritious grazing foliage. Sod forming. Seed Head Color: Yellow
	Blue Fescue (Festuca ovina Glauca)	12"×12"	E	M	4	3	2	
	Galleta (Pleuraphis jamesii)	14"×14"	D	L	1	3	3	
	Lindheimer Muhly (Muhlenbergia lindheimerii)	5'×5'	D	L +	1	3	4	Seed Head Color: Cream
	Indian Ricegrass (Achnatherum hymenoides)	18"×18"	D	L	1	1	2	Nutritious seed for wild birds
	Hardy Fountain Grass (Pennisetum aloepecuroides)	2'×2'	D	M	1	3	3	Seed Head Color: Brown
	Dwarf Feathertop (Pennisetum villosum)	2'×2'	D	M	1	3	3	Seed Head Color: White
	Karl Foerster Feather Reed Grass (Calamagrostis arundinacea)	3'×18"	D	L	1	3	3	Seed Head Color: Red


Starvation Prickly Pear


Bailey


Adams Needle Yucca


New Mexico Yucca


Blue Yucca


Dwarf Beargrass


Blue Grama


Buffalograss


Bermuda Grass


Western Wheatgrass


Blue Fescue


Galleta


Lindheimer Muhly


Dwarf Feathertop


Korean Feather Reed Grass


Jose Select Tall Wheat Grass


Switchgrass


Prarie Dropseed Grass

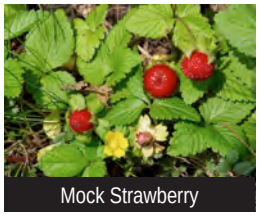

Persian Rockcress


Mat Daisy


Yerba de Mansa


Snow-In-Summer


Purple Iceplant


Mock Strawberry


Mexican Evening Primrose


Pineleaf Penstemon


Creeping Phlox


Hen and Chicks

Climate Area 1: North/Mountain

	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Ornamental Grass	Korean Feather Reed Grass (Calamagrostis brachytricha)	3'×3'	D	M	2	3	3	Seed Head Color: Pink
	Jose Select Tall Wheat Grass (Thinopyrun elongata)	4'×4'	D	L	1	3	3	Sod forming. Seed Head Color: Yellow
	Threadgrass (Nassella tenuissima)	18"×12"	D	L	1	3	3	Self-sows aggressively. Seed Head Color: Cream
	Switchgrass (Panicum virgatum)	5'×2'	D	M	1	6	3	Several cultivars each with different characteristics and sizes. Seed Head Color: Variable
	Prarie Dropseed Grass (Sporobolus heterolepis)	2'×2'		L	2	6	4	Smells like coriander. Seed Head Color: Pink and brown-tinted
	Giant Sacatoon Grass (Sporobolus wrightii)	6'×3'		M	1	3	4	Bi-monthly watering once established. Pinkish plumes. Seed Head Color: Blonde to Bronze
Groundcover	Persian Rockcress (Aethionema cordifolium)	6"×12"	E	L +	1	1	2	Mound of small, silver leaves. Flower Color: Pink
	Mat Daisy (Anacyclus depressus)	4"×12"	Semi-E	L +	1	1	2	Pedal reverse is red. Reseeds. Flower Color: White
	Yerba de Mansa (Anemopsis californica)	1'×3'	D	L +	4	3	3	Thick mat of leaves, excludes weeds. Flower Color: White
	Snow-In-Summer (Cerastium tomentosum)	6"×2'		L +	2	2		Flower Color: White
	Purple Iceplant (Delosperma cooperi)	4"×2'	D	L	2	2	3	Blooms all summer. Rarely bothered by deer. Flower Color: Magenta
	Mock Strawberry (Duchesnea indica)	6"×2'	D	M	2	4	3	Flower Color: Yellow
	Mexican Evening Primrose (Oenothera berlandieri)	12"×6"	Semi-E	L +	1	6	3	Flower Color: Pink
	Mat Penstemon (Penstemon caespitosus)	4"×12"	E	L +	2	1	2	Attract hummingbirds. Flower Color: Blue
	Pineleaf Penstemon (Penstemon pinifolius)	12"×20"	E	L +	1	1	2	Attract hummingbirds. Flower Color: Red
	Creeping Phlox (Phlox subulata)	6"×2"	D	M	1	1	2	Mossy foliage. Flower Color: Variable
	Hen and Chicks (Sempervivum tectorum)	6"×2'	E	L +	2	1	3	Flower Color: Variable
	Woolly Lambs Ear (Stachys byzantina)	12"×2'	D	L +	2	1	3	Spreads aggressively. Flower Color: Purple
	Partridge Feather (Tanacetum densum-amani)	6"×1'	E	L +	1	1	3	Silver foliage. Flower Color: Yellow
	Doone Valley Lemon Thyme (Thymus citriodorus)	3"×18"	E	L +	4	1	3	Plant in cool microclimate to prevent summer burnout. Flower Color: Pink
	Wooly Thyme (Thymus lanuginosus)	2"×18"	E	L +	2	1		Rarely flowers

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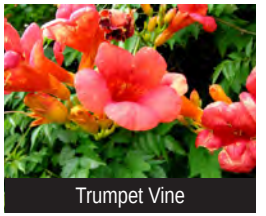
	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
	Mexican Evening Primrose (Oenothera speciosa)	1'×3'	Semi-E	M	1	2	3	Reseeds aggressively. Blooms open during daytime. Flower Color: Pink
	Pink Chintz Creeping Thyme (Thymus spp. Pink Chintz)	1"×18"	E	L +	1	1	2	Flower Color: Pink
Vines	Trumpet Vine (Campsis radicans)	Climbing ×40'	D	L +	1	1	3	Vigorous, fast growing vine. Cultivar 'Flava' has yellow blooms Flower Color: Orange
Vines	Western Virginsbower (Clematis ligusticifolia)	20'×18"	D	L +	3	4	3	Fragrant, attracts butterflies. Flower Color: White
Vines	English Ivy (Hedera helix)	20'×5'	E	L +	7	3	3	Climbing. Flower Color: Yellow
Vines	Coral Honeysuckle (Lonicera sempervirens)	12'×8'	D	L +	2	3	3	Attracts hummingbirds. Not fragrant. Flower Color: Variable
Vines	Virginia Creeper (Parthenocissus quinquefolia)	Climbing ×40'	D	M	2	3	2	Vigorous, tendrilled climbing vine. Red fall color
Vines	Boston Ivy (Parthenocissus tricuspidata)	Climbing ×40'	D	L +	2	3	2	Climbing vine. Red fall color
Vines	Silver Lace Vine (Polygonum aubertii)	Climbing ×40'	D	L +	1	4	3	Fast growing, high climbing, wide spreading. Can be invasive. Flower Color: White
Vines	American Grape (Vitis labrusca)	20'×30'	D	M	1	1	2	Climbing. Edible fruit. Flower Color: White
Vines	European Grape (Vitis vinifera)	20'×30'	D	M	1	1	2	Climbing. Edible fruit
Vines	Grape (Vitis spp.)	24'×40'	D	L +	2	1		Climbing vine, edible fruit
Vines	Japanese Wisteria (Wisteria floribunda)	40'×8'	D	L +	5	4		Flower Color: Variable
Vines	Chinese Wisteria (Wisteria sinensis)	40'×8'	D	L +	5	4	2	Flower Color: Blue
Vines	Clematis (Clematis spp. / hybrids)	Climbing ×10'	D	M	2	1	3	Climbing. Flower Color: Variable
Other	Larkspur (Consolida ambigua)	2'×6"	D	M	1	5	2	Self-sows aggressively. Flower Color: Variable
Other	Sweet William (Dianthus barbatus)	1'×1'	D	M	4	1	2	Flower Color: Pink
Other	Hooker's Evening Primrose (Oenothera hookeri)	3'×1'	D	M	1	5	3	Attracts flea beetles. Biennial. Self-sows aggressively. Flower Color: Yellow
Other	California Poppy (Eschscholzia californica)	1'×1'		L	1	1	3	Lacy foliage. Flower Color: Orange

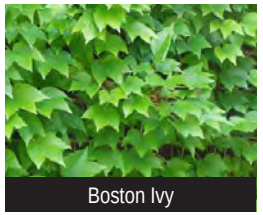

Trumpet Vine


Western Virginsbower


English Ivy


Coral Honeysuckle


Virginia Creeper


Boston Ivy


Silver Lace Vine


American Grape


Japanese Wisteria

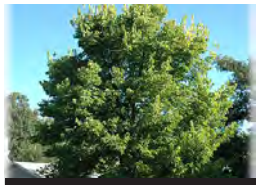

Chinese Wisteria


Clematis

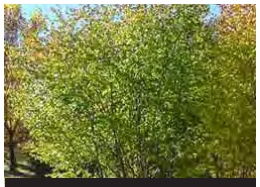

Larkspur


Sweet William


California Poppy

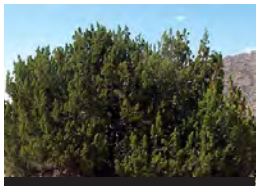

Common Hackberry

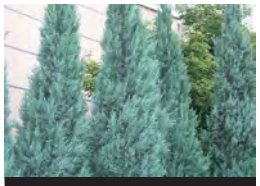

Desert Willow

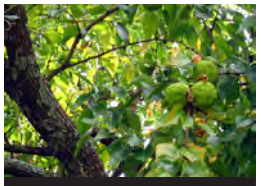

Washington Hawthorne


Carrieri Hawthorne

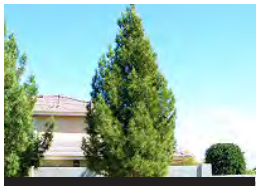

Arizona Cypress

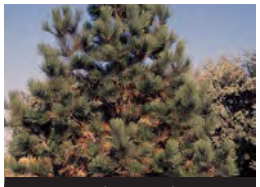

Oneseed Juniper

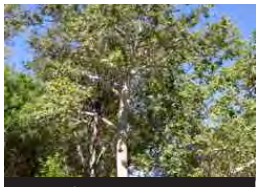

Rocky Mountain Juniper


Osage Orange


Apple


Afghan Pine


Ponderosa Pine


Arizona Sycamore


Screwbean Mesquite


Escarpment Live Oak

Climate Area 2: Central

	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Trees	Common Hackberry (Celtis occidentalis)	40'×40'	D	M	4	3	2	
	Desert Willow (Chilopsis linearis)	20'×25'	D	L	1	3	3	Medium sized flowers in purple/white. 6000' elevation adapted and in some higher urban areas. Flower Color: Pink, White, or Purple
	Washington Hawthorne (Crataegus phaenopyrum)	25'×25'	D	H	1	1	3	Subject to heat chlorosis. Flower Color: White
	Carrieri Hawthorne (Crataegus lavellei)	25'×25'	D	M +	1	1	2	Persistent frost-bronzed foliage, prolific fruit. Flower Color: White
	Arizona Cypress (Cupressus arizonica)	70'×50'	E	M	1	2	5	Fast growing, aromatic evergreen. Banned in ABQ-pollen. Heat/drought tolerant
	New Mexico Olive (Forestiera neomexicana)	15'×15'	D	M	4	2	2	Pest resistant and edible fruit. Flower Color: Yellow
	Oneseed Juniper (Juniperus monosperma)	15'×15'	E	L +	1	1		Branches to the ground. Cone fruit relished by wildlife. Flower Color: Orange
	Rocky Mountain Juniper (Juniperus scopulorum)	30'×15'	E	M	1	1	2	Variable berrylike cones. 7000' elevation adapted-heat stressed at lower elevations
	Golden Rain Tree (Koelreuteria paniculata)	25'×25'	D	M	1	3	3	One of the few trees in North America with early summer yellow blooms. Flower Color: Yellow
	Osage Orange (Maclura pomifera)	45'×45'	D	M	1	3	3	A large tree with open, spreading habit. Flower Color: Green
	Apple (Malus cultivars)	20'×15'	D	M +	1	3	2	Variable size. Flower Color: Pink
	Bristlecone Pine (Pinus aristata)	30'×20'	E	M	1	1		Slow growing
	Pinon Pine (Pinus edulis)	30'×20'	E	M	1	1		Attracts the Pine Tip Moth
	Afghan Pine (Pinus eldarica)	40'×18'	E	M	1	1		Attracts the Pine Tip Moth
	Ponderosa Pine (Pinus ponderosa)	40'×20'	E	M	4	1		Insect prone due to heat and drought
	Southwestern White (Pinus strobiformis)	30'×20'	E	M	4	1		
	Arizona Sycamore (Platanus wrightii)	60'×70'	D	M	4	1		Very large growing shade tree. Best in run-off catchments
	Screwbean Mesquite (Prosopis pubescens)	15'×10'	D	L +	1	1	3	Spirally-twisted seed pods. Flower Color: Yellow
	Velvet Mesquite (Prosopis velutina)	20'×25'	D	L +	1	1	3	
	Chokecherry (Prunus virginiana)	20'×20'	D	M	1	1		Suckers profusely, best in run-off catchments
	Escarpment Live Oak (Quercus fusiformis)	25'×30'	E	M	4	1	2	Ranges from a large shrub to a large tree

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	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Trees	New Mexico Locust (Robinia neomexicana)	25'×15'	D	M	1	1	3	Upright growing. Medicinal shrub or tree. Flower Color: White
	Black Locust (Robinia pseudoacacia)	60'×50'	D	M	1	1	3	Hardwood. Flower Color: White
	Idaho Locust (Robinia ambigua)	40'×30'	D	M	1	1	2	Prone to wind breakage and borers. Flower Color: Pink
	Mexican Elder (Sambucus mexicana)	20'×25'	D	M	1	4	3	Low, spreading tree. Good habitat plant. Flower Color: White
	Western Soapberry (Sapindus drummondii)	30'×25'	D	M	2	3		Good in run-off catchments
	Yew (Taxus species)	5'×10'	E	M	3	1		Size varies. Produces toxic red fruits
	Jujube (Zizyphus jujuba)	25'×25'	D	M	1	3	3	Flower Color: Yellow
	Tatarian Maple (Acer tataricum)	25'×25'	D	M	4	1		Yellow to reddish brown fall color
	Edible Fig (Ficus carica)	10'×10'	D	M	5	6		Sweet, edible fruit. Establish in spring and protect until hardened
Shrubs	Whitethorn Acacia (Acacia neovernicosa)	10'×8'	D	L	1	6	3	Flower Color: Yellow
	Big Sage (Artemisia tridentata)	4'×4'	E	L +	1	2	2	Aromatic foliage.
	Wintergreen Barberry (Mahonia julianae)	5'×5'	E	M	1	5	2	Coarse foliage. Flower Color: Yellow
	Dwarf Butterfly Bush (Buddleia davidii Nanhoensis)	5'×4'	D	M	1	1	3	Attracts butterflies and hummingbirds. Flower Color: Purple
	Chamisa (Chrysothamnus nauseosus)	6'×6'	D	L	1	2	5	Self-sows prolifically. Flower Color: Yellow
	Black Dalea (Dalea frutescens)	4'×4'	D	L	1	3	4	Mounding form. Flower Color: Purple
	Apache Plume (Fallugia paradoxa)	6'×7'	E	L	1	3	2	Upright, multi-branched shrub. Feathery pink seed head. Flower Color: White
	Summer Broom (Genista tinctoria)	4'×4'	D	M	3	1	2	Flower Color: Yellow
	Curry Plant (Helichrysum angustifolium)	2'×3'	E	L	2	5	3	Wood perennial with the fragrance of curry powder. Flower Color: Yellow
	Cimarron Rainsage (Leucophyllum zygophyllum)	3'×3'	E	L +	1	1		Flower Color: Blue
	Compact Oregon Grape (Mahonia aquifolium Compacta)	2'×4'	E	M	7	1	2	Purple winter foliage. Flower Color: Yellow
	Trifoliate Orange (Poncirus trifoliata)	15'×5'	E	M	4	1		Flower Color: White


Escarpment Live Oak


Idaho Locust


Jujube


Tatarian Maple


Edible Fig


Whitethorn Acacia


Big Sage


Wintergreen Barberry

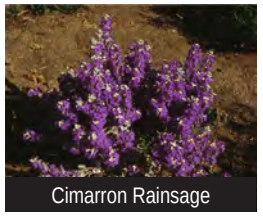

Dwarf Butterfly Bush

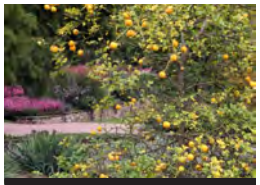

Black Dalea


Apache Plume


Summer Broom

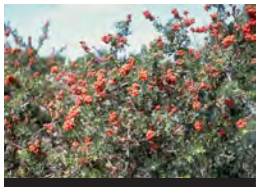

Curry Plant


Cimarron Rainsage

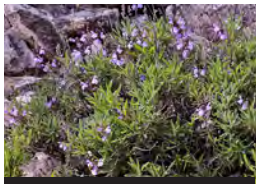

Trifoliate Orange

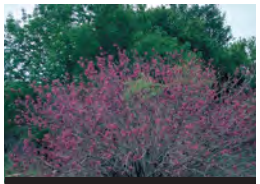

Carolina Cherry Laurel


Nanking Cherry

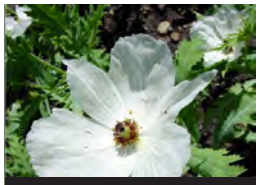

Littleleaf Sumac


Autumn Sage

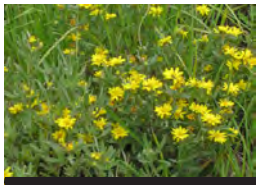

Lavender Sage


Mexican Buckeye


Moonshine Yarrow


Prickly Poppy


Persian Cornflower


Golden Aster


Threadleaf Coreopsis


Crocus


Gas Plant

Climate Area 2: Central

	Common Name (*Scientific name*)	Height x Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Shrubs	Carolina Cherry Laurel (Prunus caroliniana)	10’×10’	E	M +	3	1	2	Needs protection from drying winds. Flower Color: White
	Nanking Cherry (Prunus tomentosa)	6’×6’	D	M +	1	1	2	All prunes are susceptible to borers if water-stressed. Flower Color: White
	Littleleaf Sumac (Rhus microphylla)	8’×9’	D	L	2	3	2	Nice, informal hedge. Flower Color: White, green
	Creeping Rosemary (Rosmarinus officinalis Prostrata)	2’×6’	E	L +	1	1	8	Flower Color: Blue
	Desert Sage (Salvia dorrii)	2’×3’	E	L	1	1	2	Flower Color: Blue
	Autumn Sage (Salvia greggii)	2’×3’	D	M	4	1	6	Attracts spittle bugs. Protect in winter. Flower Color: Pink
	Lavender Sage (Salvia lavandulifolia)	2’×3’	E	M	4	1	6	Culinary herb. Flower Color: Purple
	Giant Flowered Purple Sage (Salvia pachyphylla)	3’×3’	D	L +	1	1	3	Sandy loam or clay loam. Flower Color: Pink
	Algerita (Mahonia haematocarpa)	8’×10’	E	L +	4	3	2	Red fruit. Flower Color: Yellow
	Desert Rosemary (Poliomintha incana)	3 ’×4’	Semi-E	L	1	1	2	Highly fragrant leaves. Flower Color: Blue
	Mexican Buckeye (Ungnadia speciosa)	15’×10’	D	L	5	3	2	Seeds are toxic. Flower Color: Pink
	Green Santolina (Santolina virens)	2’×2’	E	L	1	1	3	Green foliage. Flower Color: Yellow
Perennial	Moonshine Yarrow (Achillea taygetea)	18”×18”	Semi-E	M	1	4	3	Silver foliage. Flower Color: Yellow
	Prickly Poppy (Argemone spp.)	3’×2’	D	L	1	3	3	Stem leaves and seedpods are prickly. Flower Color: White
	Fringed Sage (Artemisia frigida)	12”×18”	D	L	1	1	3	Low growing groundcover. Slender stems. Fine silvery foliage
	Persian Cornflower (Centaurea dealbata)	18”×18”	D	M	5	3	3	Flower Color: Pink
	Golden Aster (Heterotheca villosa)	18”×12”	D	L	4	3	3	Weedy. Flower Color: Yellow
	Threadleaf Coreopsis (Coreopsis verticillata)	2’×2’	D	M	1	1	3	Flower Color: Yellow
	Crocus (Crocus spp.)	6”×6”	D	M	4	1	1	Flower Color: Variable
	Gas Plant (Dictamnus spp.)	3’×2’	D	M	4	6	3	Fragrant flowers. Resents moving. Flower Color: Pink

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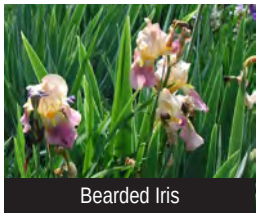
	Common Name (*Scientific name*)	Height x Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Perennial	Daylilies (Hemerocallis hybrids)	2'×3'	D	H	4	6	3	Flower Color: Variable
	Bearded Iris (Iris (rhizome-type))	2.5'×2'	D	M	2	1	2	Flower Color: Variable
	Red Hot Poker (Kniphofia uvaria)	3'×3'	D	M	1	5	3	Bud color ranges from red to orange to yellow. Grass like leaves. Flower Color: Variable
	Hardy African Daisy (Osteospermum barberiae)	12"×24"	D	M	1	1	3	Flower Color: Pink
	Oriental Poppy (Papaver orientale)	3'×2'	D	M	2	1	2	Foliage dies after bloom. Flower Color: Variable
	Cardinal Penstemon (Penstemon cardinalis)	2'×2'	E	L +	1	1	3	Attract hummingbirds. Flower Color: Red
	Prairieclover (Dalea purpureum)	1'×1'	D	L +	1	3	3	Good habitat competes well with prairie grasses. Flower Color: Purple
	Jerusalem Sage (Phlomis fruticosa)	2'×3'	D	M	1	1	3	Flower Color: Yellow
	Soapwort (Saponaria ocymoides)	1'×18"	D	M	5	3	2	Flower Color: Pink
	Autumn Joy Sedum (Sedum telephium)	18"×18"	E	L +	2	3	3	Blooms are pink in early summer and rust-red in the fall. Flower Color: Pink
	Hummingbird Plant (Epilobium californica)	2'×3'	D	L +	5	2	4	Spreads by root rhizomes. Flower Color: Red
	Rain Lily (Zephyranthes candida)	18"×12"	D	M	4	2	3	Flower Color: White
	Desert Zinnia (Zinnia grandiflora)	6"×12"	D	L	1	1	3	Heat loving, long-lived and long blooming grass foliage. Flower Color: Yellow
	Orange Hummingbird Mint (Agastache aurantiaca)	3'×3'	D	M	2	3	3	Attract Hummingbirds. Flower Color: Orange
	Blue Queen (Salvia x sylvestris)	2'×2'	D	M	1	3	2	Flower Color: Purple
	Silver Sage (Salvia argentea)	12"×18"	D	M	2	1	3	Flower Color: White
	Dwarf Silver Leaf Sage (Salvia daghestanica)	1'×1'	D	L	1	1	2	Adapts well to many soils, prefers hot sun. Flower Color: Blue
	Firewheel (Gaillardia aristata)	1'×1'	D	L	1	1	2	Smaller but more xeric than cultivars. Flower Color: Yellow
	Baja Evening Primrose (Oenothera stubbei)	6"×18"	D	L	5	3	3	Attracts flea beetles. Flower Color: Yellow
	Cheddar Pink (Dianthus gratianophotanus)	1'×2'	E	M	1	4	2	Fragrant. Flower Color: Pink


Daylilies


Bearded Iris


Red Hot Poker

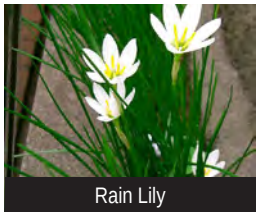

Hardy African Daisy


Oriental Poppy


Prairieclover


Jerusalem Sage


Hummingbird Plant


Rain Lily


Desert Zinnia

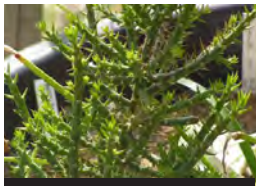

Blue Queen


Silver Sage


Dwarf Silver Leaf Sage


Firewheel

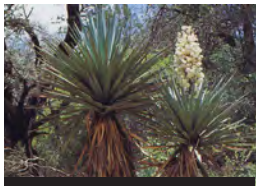

Queen Victoria Agave


Desert Cholla


Porcupine Prickly Pear


Datil

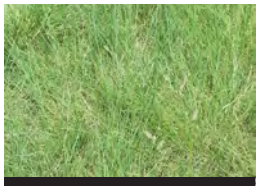

Soaptree Yucca


Mountain Yucca


Thompson Yucca

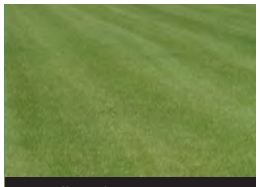

Lechuguilla

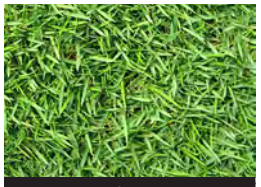

Joshua Tree


Blue Grama


Buffalograss


Sheeps Fescue


Tall Turf-Type Fescue


Zoysia grass

Climate Area 2: Central

	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Desert Accents	Queen Victoria Agave (Agave victoria-reginae)	10”×18”	E	L	1	1		Spreads via rhizomes. Flower Color: Purple
	Desert Cholla (Cylindropuntia leptocaulis)	6’×8’	E	L	1	1	3	Red fruit in autumn. Flower Color: Yellow
	Sotol (Dasylirion leiophyllum)	6’×4’	E	L +	4	2	2	Flower Color: White
	Beargrass (Nolina texana)	4’×5’	E	L	1	1	2	Flower Color: White
	Porcupine Prickly Pear (Opuntia hystricina)	1’×3’	E	L	1	3	3	Flower Color: Yellow
	Datil (Yucca baccata)	4’×5’	E	L	1	1	2	Flower Color: White
	Soaptree Yucca (Yucca elata)	15’×5’	E	L	1	1	2	Medicinal plant. Flower Color: White
	Adams Needle Yucca (Yucca filamentosa)	3’×3’	E	L +	4	1		
	Mountain Yucca (Yucca schottii)	5’×2’	E	L	4	1		
	Thompson Yucca (Yucca thomsoniana)	8’×6’	E	L	1	1	3	Many-headed. Flower Color: White
	Lechuguilla (Agave lechuguilla)	1’×1’	E	L	1	1	3	Spreads by rhizomes to make a spikey groundcover. Flower Color: Yellow
	Joshua Tree (Yucca brevifolia)	10’×10’	E	L	1	1	2	Many-headed. Massive accent specimen. Flower Color: White
Turf Grass	Blue Grama (Bouteloua gracilis)	18”×18”+	D	L +	1	3		Height varies
	Buffalograss / Buchloe (Bouteloua dactyloides)	6”×12”+	D	M	1	6		Sod forming, warm season grass. Often mowed. Flower Color: Yellow
	Bermuda Grass (Cynodon dactylon)	2”×12”+	D	M	1	1		Warm season grass. Often mowed. Sod forming
	Sheeps Fescue (Festuca ovina)	1’×1’+	E	M +	3	1		Un-mowed grass groundcover. Bunchgrass
	Tall Turf-Type Fescue (Festuca spp.)	1’×1’+		H	5	1		Variable cool season grasses
	Zoysia grass (Zoysia spp.)	1’×3’+		M	1	1		

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	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Ornamental Grass	Sideoats Grama (Bouteloua curtipendula)	30”×18”	D	M	1	3	3	This is a prairie ground cover, not lawn coverage
	Ravenna Grass (Erianthus ravennae)	6’×8’	D	M +	1	1	4	Seed Head Color: White
	Maiden Grass (Miscanthus spp.)	5’×5’	D	M +	2	4	4	Seed Head Color: Purple changing to silver
	Lindheimer Muhly (Muhlenbergia lindheimerii)	5’×5’	D	L +	1	3	4	Seed Head Color: White
	Purple Muhly (Muhlenbergia rigida)	2’×3’	D	L +	1	3	4	Seed Head Color: Purple
	Switchgrass (Panicum virgatum)	5’×2’	D	M	1	6	3	Several cultivars each with different characteristics and sizes. Seed Head Color: Variable
Groundcover	Mat Daisy (Anacyclus depressus)	4”×12”	Semi-E	M	1	1	2	Pedal reverse is red. Reseeds. Flower Color: White
	Coyotebrush (Baccharis pilularis)	2’×5’	E	L +	5	3	3	Hardy, adaptable to a wide variety of soils. Low spreading dense, green mats. Flower Color: White
	Partridge Feather (Tanacetum densum-amani)	6”×1’	E	L +	1	1	3	Silver foliage. Flower Color: Yellow
	Greek Germander (Teucrium cossonii majoricum)	6”×18”	E	M	1	1	6	Flower Color: Pink
	Desert Verbena (Glandularia spp.)	1’×2’	D	L	1	1	6	Stems and leaves are often hairy. Flower Color: Purple
	Annie Verbena (Verbena sp. 'Annie!')	12”×24”	D	M	1	1	3	A long-lived heritage cultivar. Flower Color: Pink
Vines	Virginia Creeper (Parthenocissus quinquefolia)	Climbing ×40	D	M +	2	3	2	Vigorous, tendriled climbing vine. Red fall color
	Boston Ivy (Parthenocissus tricuspidata)	Climbing ×40	D	M	2	3	2	Climbing vine. Red fall color
	Silkvine (Periploca graeca)	Climbing ×40	D	M	1	1	2	Climbing. Butterfly nectar plant. Flower Color: Purple
	European Grape (Vitis vinifera)	20”×30”	D	M	1	1	2	Climbing. Edible fruit
	Clematis (Clematis spp. / hybrids)	Climbing ×10’	D	M +	2	1	3	Climbing. Flower Color: Variable
Other	Hooker's Evening Primrose (Oenothera hookeri)	3’×1’	D	M	1	5	3	Attracts flea beetles. Biennial. Self-sows aggressively. Flower Color: Yellow
	California Poppy (Eschscholzia californica)	1’×1’		L	1	1	3	Lacy foliage. Flower Color: Orange
	Larkspur (Consolida ambigua)	2’×6”	D	M	1	5	2	Self-sows aggressively. Flower Color: Variable


Sideoats Grama


Ravenna Grass


Maiden Grass


Lindheimer Muhly


Purple Muhly


Switchgrass


Coyotebrush


Partridge Feather


Greek Germander


Desert Verbena


Annie Verbena


Silkvine


California Poppy


Larkspur

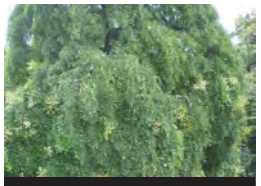

Smoketree

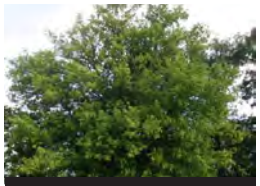

Leyland Cypress

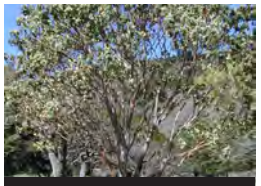

Little Walnut / Nogalito


Goldenball Leadtree

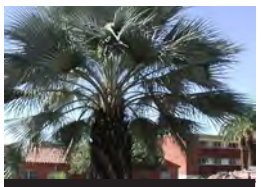

Desert or Shrub Live Oak

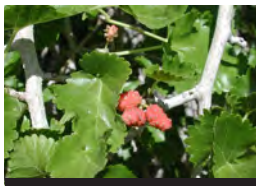

Japanese Pagoda Tree

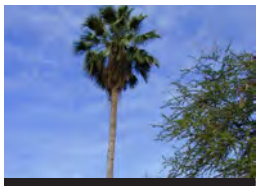

Box Elder


Texas Madrone


Anacacho Orchid Tree


Mexican Blue Palm


Fruiting Mulberry


Mexican Fan Palm


Desert Willow


Edible Fig

Climate Area 3: South

	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Trees	Smoketree (Cotinus coggygria)	15’×30’	D	M	1	3	3	Multi-season color. Flower Color: Orange
	Leyland Cypress (Cupressocyparis leylandii)	60’×35’	E	M	1	1		Stressed by heat
	Arizona Cypress (Cupressus arizonica)	70’×50’	E	M	1	2	5	Fast growing, aromatic evergreen. Banned in ABQ-pollen. Heat/drought tolerant
	Little Walnut / Nogalito walnut (Juglans microcarpa)	30’×30’	D	L+	1	1		Best in run-off catchments
	Alligator Juniper (Juniperus deppeana)	60’×40’	E	L+	1	1		Gorgeous!
	Goldenball Leadtree (Leucaena retusa)	15’×20’	D	L	1	1	3	Tropical looking small tree. Flower Color: Yellow
	Osage Orange (Maclura pomifera)	45’×45’	D	M	1	3	3	A large tree with open, spreading habit. Flower Color: Green
	Velvet Mesquite (Prosopis velutina)	20’×25’	D	L+	1	1	3	Flower Color: Yellow
	Desert or Shrub Live Oak (Quercus turbinella)	18’×20’	E	L	4	1		
	Idaho Locust / Purple Robe Locust (Robinia ambigua)	40’×30’	D	M	1	1	2	Prone to wind breakage and borers. Flower Color: Pink
	Japanese Pagoda Tree (Styphnolobium japonica)	35’×35’	D	M	1	3	3	Flower Color: White
	Windmill Palm (Trachycarpus fortunei)	30’×10’	E	M	4	1	3	Severe frost damage some years. Flower Color: Yellow
	Chaste Tree / Vitex Tree (Vitex agnus-castus)	20’×20’	D	M	1	1	3	Can be shaped into beautiful specimens. Flower Color: Blue
	Box Elder (Acer negundo)	40’×40’	D	M	4	1		Provides dense shade
	Texas Madrone (Arbutus xalapensis)	25’×15’	E	M	5	4		White bark in the spring changing to cinnamon in fall. Red/ orange berries
	Anacacho Orchid Tree (Bauhinia lunarioides)	20’×15’	D	L	5	4		Small tree or multi-trunked shrub with interesting leaves. Flower Color: Blue
	Mexican Blue Palm (Brahea armata)	30’×8’	E	L	1	1		Most drought tolerant of the fan palms. Slow growing. Not normally available locally
	Blue Palo-Verde (Cercidium x Parkinsonia floridum)	20’×20’	D	L	1	1		Broad spreading crown, low growing. Flower Color: White
	Desert Willow (Chilopsis linearis)	20’×25’	D	L	1	3	3	Medium sized flowers in purple/white. 6000’ elevation adapted and in some higher urban areas. Flower Color: Pink, White, or Purple
	Edible Fig (Ficus carica)	10’×10’	D	M	5	6		Sweet, edible fruit. Establish in spring and protect until hardened

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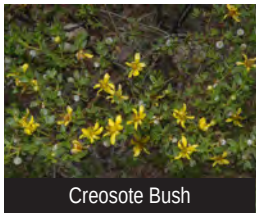
	Common Name (*Scientific name*)	Height x Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Trees	Fruiting Mulberry (Morus alba (female))	40'×40'	D	M	1	4		Edible, purple berries. Attracts fall webworms and borers
	Mexican Fan Palm (Washingtonia robusta)	30'×6'	E	L	1	1		Old leaves protect from hard freezes
Shrubs	Blue Algerita (Mahonia fremontii)	5'×6'	E	L+	4	3	2	Beautiful prickly leaves with red fruit. Flower Color: Yellow
	Fernbush (Chamaebatiaria millefolium)	8'×6'	D	M	1	1	3	Spicy aroma. Beautiful, fern-like leaves. Flower Color: White
	Apache Plume (Fallugia paradoxa)	6'×7'	E	L	1	3	2	Upright, multi-branched shrub. Feathery pink seed head. Flower Color: White
	Creosote Bush (Larrea tridentata)	6'×8'	E	L	1	1	3	Aromatic foliage. Excellent habitat. Flower Color: Yellow
	Cimarron Rainsage / Blue Ranger (Leucophyllum zygophyllum)	3'×3'	E	L	1	1		Flower Color: Blue
	Dunebroom (Parryella filifolia)	3'×3'	D	L	1	2	3	Aromatic foliage. Excellent erosion control. Flower Color: Yellow
	Littleleaf Mock Orange (Philadelphus microphyllus)	6'×6'	D	M	4	1	2	Fragrant. Flower Color: White
	Photinia / Red Tip Photinia (Photinia fraseri)	8'×8'	E	M	1	1	1	Mildew resistant but prone to cholorsis. Flower Color: Blue
	Upright Rosemary (Rosmarinus officinalis)	6'×6'	E	L+	1	1	8	Culinary herb. Flower Color: Blue
	Autumn Sage / Cherry Sage (Salvia greggii)	2'×3'	D	M	4	1	6	Attracts spittle bugs. Protect in winter. Flower Color: Pink
	Raspberry Delight Hybrid Bush Sage (Salvia x raspberry delight)	3'×3'	D	M	2	3	6	Prefers well drained soil. Flower Color: Red
	Bush Dalea / Indigo Bush (Dalea pulchra)	4'×5'	E	L	1	1	2	Upright branching, rounded shrub. Flower Color: Purple
	Cenizo / Texas Sage (Leucophyllum pruinosum)	5'×5'	Semi-E	L	1	1	3	Blooms in response to heavy rains. Sprawling growth habit. Flower Color: Purple
	Mountain Ranger (Leucophyllum revolutum)	4'×4'	E	L	1	1	5	Flower Color: Purple
	Turk's Cap / Waxmallow (Malvaviscus drummondii)	3'×5'	E	M	5	2	6	Traditional medicinal plant. Red fruit. Flower Color: Red
	Rose Pavonia (Pavonia lasiopetala)	3'×2'		L	5	6		Flower Color: Pink
	Canyon Sage (Salvia lycioides)	1'×1'	Semi-E	L	5	1	3	Flower Color: Blue
	Eve's Necklace (Sophora affinis)	15'×10'	D	L	5	1	2	Flower Color: Pink


Blue Algerita


Creosote Bush


Dunebroom


Littleleaf Mock Orange


Photinia / Red Tip Photinia


Upright Rosemary


Raspberry Delight Hybrid


Bush Dalea / Indigo Bush


Cenizo / Texas Sage


Mountain Ranger

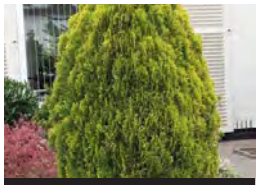

Turk's Cap / Waxmallow


Rose Pavonia

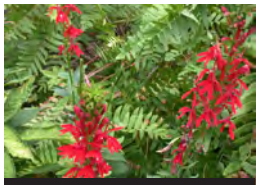

Canyon Sage


Eve's Necklace


Japanese Snowball


Oriental Arborvitae


Butterflyweed

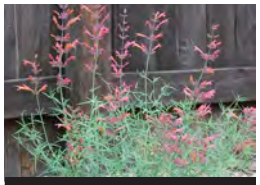

Red Lobelia

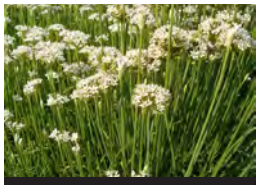

Bush Penstemon


Palmer's Penstemon


Orange Hummingbird Mint


Texas Hummingbird Mint

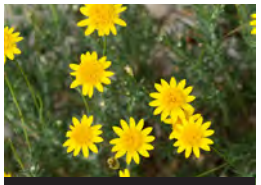

Wild Hyssop


Garlic Chives


Aster


Sundrops


Chrysanthemum


Golden Dogweed / Dyssodia

Climate Area 3: South

	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Shrubs	Japanese Snowball (Viburnum plicatum)	15'×15'	D	M+	5	4	2	Flower Color: White
	Oriental Arborvitae (Platycladus orientalis)	15'×15'	E	M	5	6	2	Foundation plants and screens
Perennial	Moonshine Yarrow (Achillea taygetea)	18"×18"	Semi-E	M+	1	4	3	Silver foliage. Flower Color: Yellow
	Prickly Poppy / Squarrosa (Argemone spp.)	3'×2'	D	L	1	3	3	Stem leaves and seedpods are prickly. Flower Color: White
	Butterflyweed (Asclepias tuberosa)	2'×2'	D	M+	2	6	3	Needs shade in hotter areas. Flower Color: Orange
	Bearded Iris / Iris (Iris (rhizome-type))	2.5'×2'	D	M	2	1	2	Flower Color: Variable
	Red Lobelia / Looseflowered Lobelia (Lobelia laxiflora)	3'×4'	D	H	5	3	3	Attracts hummingbirds. Flower Color: Red
	Bush Penstemon / Sand Penstemon (Penstemon ambiguus)	2'×2'	E	L	1	1	3	Herbaceous perennial that is valuable for soil stabilization Flower Color: White
	Palmer's Penstemon (Penstemon palmeri)	4'×2'	Semi-E	L	1	1	1	Scented blooms. Attract hummingbirds. Flower Color: Pink
	Hummingbird Plant / Zauschneria (Epilobium californica)	2'×3'	D	L+	5	2	4	Spreads by root rhizomes. Flower Color: Red
	Orange Hummingbird Mint (Agastache aurantiaca)	3'×3'	D	M+	2	3	3	Attract Hummingbirds. Flower Color: Orange
	Texas Hummingbird Mint / Giant Hyssop (Agastache cana)	3'×3'	D	M	1	3	4	Attract Hummingbirds. Flower Color: Pink
	Wild Hyssop (Agastache spp.)	3'×1'	D	M	5	1		Many varieties of aromatic foliage and flowers heat loving plants
	Garlic Chives (Allium tuberosum)	18"×12"	D	M	7	3	4	Tough bulbous roots, strongly scented. Flower Color: White
	Aster (Aster spp.)	3'×3'		M	5	2		Long leafy stalks
	Sundrops (Calylophus hartwegii)	15"×3'	D	L	1	3	3	Upright, bushy plant with small dull green leaves. Reseeds. Flower Color: Yellow
	Chrysanthemum (Chrysanthemum morifolium)	3'×2'		M	5	1		Versatile and varied species. Florist's favorite. Flower Color: Varied
	Golden Dogweed / Dyssodia (Thymophylla pentachaeta)	8"×12"	E	L	1	1	6	Aromatic foliage. Flower Color: Yellow
	Cutleaf Daisy (Engelmannia pinnatifida)	3'×2'	D	L	5	1		

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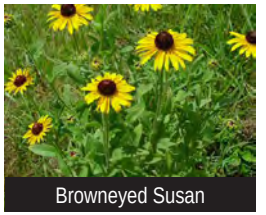
	Common Name (*Scientific name*)	Height x Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Perennial	Western Wallflower (Erysimum capitatum)	3'×1'		L	1	1		
	Firewheel / Blanket flower (Gaillardia aristata)	1'×1'	D	L	1	1	2	Smaller but more xeric than cultivars. Flower Color: Yellow
	American Aloe / Texas Tuberose (Manfreda maculosa)	2'×1'	D	M	5	1	2	Spreads slowly from root offshoots or "pups". Flower Color: White
	Hill Country Penstemon (Penstemon triflorus)	2'×1'	D	M	5	1	2	Attract hummingbirds. Flower Color: Red
	Browneyed Susan (Rudbeckia hirta)	2'×1'	D	L	5	6	3	Flower Color: Yellow
	Cedar Sage (Salvia roemeriana)	1'×1'	D	L	7	1	3	Shade tolerant plant. Flower Color: Red
Desert Accents	Queen Victoria Agave (Agave victoria-reginae)	10"×18"	E	L	1	1		Spreads via rhizomes
	Parry's Agave/Mescal Agave (Agave parryi / neomexicana)	30"×30"	E	L	1	1		
	Cylindropuntia Club Cholla / Daggerspine Cholla (Grusonia clavata)	4"×3'	E	L	1	1	3	Flower Color: Yellow
	Blue Sotol / Desert Spoon (Dasylirion wheeleri)	5'×5'	E	L	1	2	2	Flower Color: White
	Hedgehog Cactus / Claret-cup (Echinocereus spp.)	8"×18"	E	L	2	1	3	Flower Color: Pink
	Ocotillo (Fouquieria splendens)	15'×10'	D	L	1	2	2	Stems that are very thorny and leafless until following heavy rains. Flower Color: Red
	Beargrass (Nolina microcarpa)	4'×5'	E	L	1	1	2	Flower Color: White
	Spanish Dagger / Spanish Bayonet (Yucca aloifolia)	6'×5'	E	L	1	1	2	Most often stays single-stemmed rosette. Flower Color: White
	Datil / Banana Yucca (Yucca baccata)	4'×5'	E	L	1	1	2	Flower Color: White
	Thompson Yucca (Yucca thomsoniana)	8'×6'	E	L	1	1	3	Many-headed. Flower Color: White
	Dwarf Beargrass / Ribbon Grass (Nolina lindheimeriana)	3'×3'	E	L	1	5	2	Flower Color: White
	Cane Cholla (Opuntia imbricata)	8'×5'	E	L	1	3		Sharp spines. Attracts cochineal bugs and stem borers. Flower Color: Yellow


Western Wallflower


Firewheel


American Aloe


Hill Country Penstemon


Browneyed Susan


Cedar Sage


Parry's Agave/Mescal Agave


Blue Sotol / Desert Spoon


Hedgehog Cactus


Ocotillo


Beargrass


Spanish Dagger


Datil


Thompson Yucca

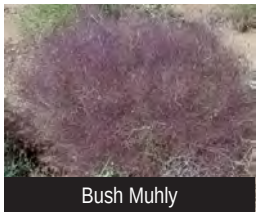

Blue Grama


Buffalograss


Bermuda Grass


St. Augustine Grass


Gulf Muhly


Bush Muhly


Pink Flamingo


Stonecrop

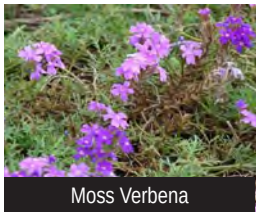

Common Ice Plant


Sierra Gold


Mat Dalea / Trailing Indigo


Common Wintercreeper


Trailing Gazania


Moss Verbena

Climate Area 3: South

	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Turf Grass	Blue Grama (Bouteloua gracilis)	18”×18”+	D	L+	1	3		Height varies
	Buffalograss / Buchloe (Bouteloua dactyloides)	6”×12”+	D	M	1	6		Sod forming, warm season grass. Often mowed. Flower Color: Yellow
	Bermuda Grass / Common Bermuda (Cynodon dactylon)	2”×12”+	D	M+	1	1		Warm season grass. Often mowed. Sod forming
	Tall Turf-Type Fescue (Festuca spp.)	1’×1’+		H	5	1		Variable cool season grasses
	St. Augustine Grass (Stenotaphrum secundatum)	1’×3’+		M	5	1		Wear and salt tolerant. Carpet like growth. Warm season grass
	Zoysia grass (Zoysia spp.)	1’×3’+		M	1	1		
Ornamental Grass	Gulf Muhly (Muhlenbergia capillaris)	3’×3’	D	M	2	3	4	Purple seed heads in late fall. Seed Head Color: Pink or purple
	Bush Muhly (Muhlenbergia porteri)	1’×2’	D	L+	1	1	4	Soft rose-pink misty appearance. Seed Head Color: Yellow
	Indian Ricegrass / Oryzopsis (Achnatherum hymenoides)	18”×18”	D	L	1	1	2	Nutritious seed for wild birds
	Silver Beardgrass (Andropogon saccharoides)	12”×18”	D	L	2	4	4	Medicinal uses. Red fall color. Seed Head Color: White
	Threadgrass / Stipa Silky Threadgrass (Nassella tenuissima)	18”×12”	D	L	1	3	3	Self-sows aggressively. Seed Head Color: Cream
	Little Bluestem (Schizachyrium scoparium)	2’×12”		L	4	6	4	Several cultivars each different in color. Seed Head Color: Red
	Pink Flamingo (Muhlenbergia hybrid)	5’×2’	D	M	1	1	4	Colors early in season. Seed Head Color: Pink
Groundcover	Stonecrop (Sedum spp.)	4”×18”	E	M	2	3	3	Spreads by easily rooting on bare ground. Only larger species are xeric. Flower Color: Variable
	Common Ice Plant (Carpobrotus edulis)	1’×5’	E	L	1	2		Bright green fleshy leaves, bright yellow to pink flowers
	Sierra Gold / Trailing Yellow Dalea (Dalea capitata)	1’×3’	Semi-E	L	1	1	3	Low mounding groundcover. Flower Color: Yellow
	Mat Dalea / Trailing Indigo Bush (Dalea greggii)	1’×4’	E	L	1	1	3	Silver foliage. Flower Color: Purple
	Common Wintercreeper (Euonymus fortunei)	2’×3’	E	M	6	1		
	Trailing Gazania (Gazania rigens Leucolaena)	1’×1’		L	1	1		Trailing ground cover with long spreading stems. Flower Color: Orange
	Moss Verbena (Glandularia pulchella)	1’×4’	D	M	1	1	8	Spreading stems that can root at nodes, thick, ground-hugging mat. Flower Color: Lavender

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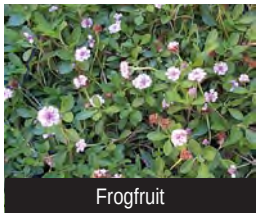
	Common Name (*Scientific name*)	Height × Width	Deciduous or Evergreen	Water Use	Sun Exposure	Soil Type	Bloom Period	Description
Groundcover	Desert Verbena (Glandularia spp.)	1'×2'	D	L	1	1	6	Stems and leaves are often hairy. Flower Color: Purple
	Primrose Jasmine (Jasminum mesnyi)	3'×10'	E	M	5	1	2	Long arching branches. Flower Color: Yellow
	Trailing Lantana (Lantana montevidensis)	4'×4'	D	M	1	1	3	Vine-like stems that can root at leaf nodes. Flower Color: Lavender
	Frogfruit (Phyla nodiflora)	3"×12"	E	M	5	1	3	Flower Color: Pink
	Creeping Germander (Teucrium chamaedrys 'Prostrata')	6'×18"	E	M	2	3	3	Mat-forming. Flower Color: Pink
Vines	Boston Ivy (Parthenocissus tricuspidata)	Climbing ×40'	D	M	2	3	2	Climbing vine. Red fall color
	Coral Vine / Queen's Wreath (Antigonon leptopus)	10'×4'	D	L	1	1	4	Vigorous spreading vine. An excellent trellis or fence plant. Flower Color: Magenta
	Carolina Jasmine (Gelsemium sempervirens)	20'×8'	E	M	7	1	2	Twining vine. Flower Color: Yellow
	Catsclaw Vine (Macfadyena unguis-cati)	25'×15'	D	M	5	1		A vigorous, fast climbing vine. Flower Color: Yellow
	Alamo Vine (Merremia dissecta)	10'×10'		L	5	4		Vigorous, multi-stemmed, twinning vine. Flower Color: White
	Asian Jasmine (Trachelospermum asiaticum)	1'×4'	E	M	5	3		Attracts mealy bugs and spider mites. Flower Color: Yellow
	Star Jasmine (Trachelospermum jasminoides)	20'×20'	E	M	6	3	2	Fragrant. Flower Color: White
	Grape (Vitis spp.)	24'×40'	D	M	2	1		Climbing vine, edible fruit
	Japanese Wisteria (Wisteria floribunda)	40'×8'	D	M	5	4		Flower Color: Variable
	Chinese Wisteria (Wisteria sinensis)	40×8	D	M	5	4	2	Flower Color: Blue
Other	African Daisy (Dimorphotheca sinuata)	12"×12"	D	M	1	1	3	Self-sows. Flower Color: Orange
	Hooker's Evening Primrose / Evening Primrose (Oenothera hookeri)	3'×1'	D	M	1	5	3	Attracts flea beetles. Biennial. Self-sows aggressively. Flower Color: Yellow
	Desert Marigold (Baileya multiradiata)	18"×12"	D	L	1	1	6	Full, long stalks above low mounds of white foliage. Stems and leaves are wooly. Flower Color: Yellow
	Chile Pequin (Capsicum annuum)	2'×2'		L	5	6		Short, herbaceous, densely branching. Flower Color: White
	Mexican Gold Poppy (Eschscholzia mexicana)	8"×8"		L	1	1	2	Lacy foliage. Flower Color: Yellow


Primrose Jasmine


Trailing Lantana


Frogfruit

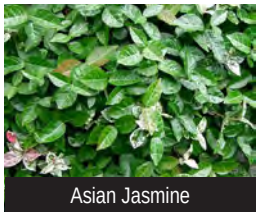

Creeping Germander


Coral Vine / Queen's Wreath


Carolina Jasmine


Catsclaw Vine


Alamo Vine


Asian Jasmine


Star Jasmine


Grape


African Daisy


Desert Marigold


Chile Pequin

Additional Information

Conservation and Rebates

Albuquerque Bernalillo County Water Utility Authority
https://www.abcwua.org/Xeriscape.aspx

Rio Rancho
https://www.rrnm.gov/4053/Outdoor-Rebates

Santa Fe
https://savewatersantafe.com/outdoor-rebates/

Gallup
https://www.gallupnm.gov/325/Rebate-Forms

Las Vegas
http://www.lasvegasnm.gov/toilets3.pdf

Ruidoso
https://www.waterrebates.com/nm---ruidoso

Other information:

New Mexico's 811 system
https://call811.com/map-page/new-mexico

U.S. EPA's WaterSense Program
https://www.epa.gov/watersense/outdoors

New Mexico State University
https://aces.nmsu.edu/pubs/_h/H121/

https://aces.nmsu.edu/pubs/_circulars/CR607/

https://aces.nmsu.edu/pubs

http://www.nmda.nmsu.edu/wp-content/uploads/2012/04/troublesome_weeds_nm.pdf

New Mexico Office of the State Engineer Water Use and Conservation: Irrigation "Smart" Calculator
http://wuc.ose.state.nm.us/irrcalc/

New Mexico Office of the State Engineer Water User and Conservation: New Mexico Plant List
http://wuc.ose.state.nm.us/Plants/

City of Santa Fe
https://www.santafenm.gov/document_center/document/1473

Aggie Horticulture
https://aggie-horticulture.tamu.edu/earthkind/landscape/proper-pruning-techniques/

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The New Mexico Office of the State Engineer's Water Use and Conservation Bureau produced this brochure. This office strives to provide practical water conservation information and raise awareness about the value of water resources throughout New Mexico.

Learn more about water use and conservation on our website:

http://www.ose.state.nm.us/WUC/