One of the Valley's longtime staples of desert landscaping is the Texas Ranger (Leucophyllum spp.). The name is derived from the Greek words leukos, meaning "white," and phyllos, meaning "leaf," referring to the foliage. It is native to the Chihuahuan Desert of Texas and Mexico. Texas Ranger grows to about 4-8 feet high, with a spread to equal its height. Its leaves are fairly small, generally not much more than an inch or so long. They tend to be silvery grey, with a downy coat, although there are some varieties whose foliage is deep green and relatively smooth. The solitary axillary flowers are bell-shaped, with five lobes and two lips, and colors ranging from white to magenta to purple. Texas Rangers bloom sporadically throughout the warm months, most notably when the humidity is high. They are often referred to as barometer plants because they tend to flower anytime there is a change in air pressure, especially during monsoon season. Even without flowers, its leaves can make it an interesting addition to the desert landscape. Texas Ranger does best in full sun, will grow relatively quickly in spite of the Mojave’s low humidity, thrives in the desert heat, is relatively clean, is the epitome of low-maintenance, is frost-hardy and evergreen and is one of the many shrubs that can be used to add both color and texture to a desert garden. Likewise, Texas Rangers are a fabulous addition to any xeriscape because they are some of the toughest plants around.
**Homemade Plant Food**

**Green tea** – A weak solution of green tea can be used to water plants every 4 weeks (1 teabag to 2 gallons of water).

**Gelatin** – Gelatin can be a great salt free nitrogen source for your plants, although not all plants thrive with lots of nitrogen. Dissolve 1 package of gelatin in 1 cup of hot water until dissolved, and then add 3 cups of cold water for use once a month.

**Aquarium water** – Water your plants with the aquarium water taken out while changing the tank. The fish waste makes a great plant fertilizer.

**Coffee grounds** – Soak 6 cups of coffee grounds in a 5 gallon bucket of water. Let it sit for 2-3 days and then saturate the soil around your plants.

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**Native Seeds/SEARCH**

Native Seeds/SEARCH is a non-profit, seed bank of traditional domesticated crops and their wild and weedy relatives native to the United States Southwest and Northwest Mexico. The Native Seeds/SEARCH encourages farmers and gardeners to continue to plant and use the traditional crops within the region to which they are native and to foster habitat protection of wild useful plants. They believe that sustainable access to food for all people is achievable with the right approaches. At a time when rapid climate change, increasing water scarcity, and global resource depletion are challenging our food systems, crop diversity represents a critical lifeline to the resilient future that we all need. Members in the organization receive a quarterly newsletter which contains recipes, previews workshops and other special events, gardening tips, book reviews, and feature articles on Native American farmers and crops. Members also receive a 10% discount on all items sold. Associate membership starts at $25/year. To become a member or to order a seed catalog for $1.50 contact the organization at 3584 E. River Road, Tucson, AZ 85718 Phone: 520-622-0830 Fax: 520-622-0829 or [http://www.nativeseeds.org/](http://www.nativeseeds.org/)

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**September Reminders**

1. Plant fall vegetables and flowers.
2. Fertilize container grown succulents.
3. Lemons can be picked as needed.
4. Cut back annuals when they finish flowering.
5. Divide perennials, like daylilies and Shasta daisy every 3-4 years.
6. Watch for droopy leaves in Agave. This is a sign of snout weevil.
7. Plant spring wildflower seeds.
8. Resume regular fertilizing of roses.
9. Mulch bulb beds to protect root zone.
11. Aerate established lawns and begin over-seeding.
12. Prune cold-hardy summer-flowering shrubs.

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**Upcoming Volunteer Opportunities:**

- MG Meetings
- Newsletter Article
- Fair garden Clean-up
- UNCE plant pruning

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**Companion Planting**

**Beets** - Grow better if planted with kohlrabi, lettuce, and cabbage. Planting with onions helps deter some insects and weeds.

**Broccoli** - Planted with dill or mint grows better.

**Cabbage family** - Cabbage butterfly is repelled by any aromatic plant like rosemary, dill or sage.

**Carrots** - Carrot fly is repelled if carrots are planted with sage or onions.

**Fennel** - Fennel is hated by kohlrabi and caraway. If planted near dill may cross-pollinate.

**Leeks** - Leeks grow better if planted with carrots, celery or onions.

**Lettuce** - Plant with carrots, radishes, or peas.

**Onion** - Planting chamomile with onions improves the flavor of the onions.

**Parsley** - Grow near chives, but away from mint. Aids growth of asparagus and carrots.
Wildflowers in the Home Garden

Because few sights are as spectacular as a field of wildflowers, many gardeners wish to include them in their home gardens. Wildflowers are admired for their combination of beauty and self-sufficiency. However, the most common misconception about wildflower gardening is that it is maintenance-free. Like any garden, a wildflower area will take some work. Once established, maintenance will diminish greatly but normal weeding, tilling and watering will make the garden successful.

For some, the idea of having a strictly “wildflower” garden has been expanded to include a more integrated planting of flowers and shrubs, including as many native plantings as possible. Wildflowers should be mixed into your garden along with other selected perennials, bulbs, herbs, and flowering shrubs. Planting wildflowers alone will show a dominance of annuals the first year with the more persistent perennials settling into dominance. Retaining diversity will require a bit of work but your efforts will be rewarded. Your goal as a gardener should be to create an effect, choosing from as many different kinds of plant material as necessary, whether perennials, bulbs, herbs, annuals, and, of course, wildflowers.

Note from Native Seeds/SEARCH: Gardeners should be aware that seeds of wild plants need to be treated differently from those of domesticated plants. Wild plant seed may have germination inhibitors, dormancy requirements, or extra-hard seed coats to insure survival of the plant. Before planting wild seeds, gardeners may find it helpful to pre-treat the seeds. Chemical inhibitors on seeds, well known on chile pines, need to be flushed away. (One gardener found that a solution of 1 tsp. vinegar to 1 cup of water worked well.) Dry seeds of plants native to cold-winter climes may benefit from a few days to weeks in the freezer. Hard seed coats can be sanded or filed in order to promote water absorption.

Link to complete article and a list of wonderful wildflowers.

Organic Pest Control

Pheromones (from Greek phero "to bear" + hormone from Greek - "impetus") – Pheromones are chemical signals emitted by insects that enable them to communicate with other members of the same species. These signals aid in finding mates, food and habitat resources, warning of enemies, and avoiding competition. Pheromones are sometimes called “perfumes,” particularly those pheromones used to attract members of the opposite sex. They can be used to attract insects into traps, or they can be used to confuse insects so that they fail to reproduce. Certain pheromones go beyond specific species. Pheromones can play an important role in integrated pest management for structural, landscape, agricultural, or forest pest problems in Nevada.

Excellent Publication on Pheromones
Penstemons are flowering perennials much loved by the gardening public. Gardeners appreciate their diversity of flower colors that are at peak bloom in June and July, their many shapes and sizes, and their attractiveness to hummingbirds and other native pollinators. You may even have planted some in your own garden. Most people don’t realize there are about 280 species of penstemon, all native to North America. Even fewer know that 51 of those grow wild right here in Nevada.

The form of penstemon species ranges from small mat-forming plants to 5-foot-tall majestic spires. You can recognize a penstemon flower by its tubular shape that flares open forming two lips. The upper lip has two lobes, and the lower lip has three. What sets penstemon flowers apart from other tube-shaped flowers is the tongue—the infertile pollen sac stem that protrudes from the throat. In some penstemon species, this tongue is fuzzy or hairy, inspiring its common name—beardtongue.

**Why Plant Penstemons?**

*Penstemon flowers come in many different colors.* You may have seen the tall spires of fragrant baby pink to white flowers with pink guidelines sported by Palmer’s penstemon (Penstemon palmeri) (Fig. 1). It is found in a number of native plant gardens in Washoe County. It grows wild in dry lower elevation areas, especially in the southern part of the state. A favorite of many gardeners is firecracker penstemon (Penstemon eatonii) (Fig. 2), so named for its bright red flowers that gently dangle along one side of its stems. It is especially attractive to hummingbirds. This penstemon is widely adapted to elevations from 3,000 feet up to 10,000 feet.
Many penstemons native to dry areas have striking blue or purple flowers. A good example is the low-growing species, bunchleaf penstemon (Penstemon heterophyllus) (Fig. 3). This species grows to only 18 inches tall and blooms from April through July. It is very heat- and drought-tolerant and a great choice for a rock garden. For a real showstopper, you might consider desert penstemon (Penstemon pseudospectabilis). With its 4-foot-tall stems loaded with magenta-pink flowers, this plant begins blooming in April in some parts of the state and will continue blooming through June. With a little extra irrigation, it may even rebloom for season-long color. Hot rock penstemon (Penstemon deustus) is one of the few white-flowered penstemons in the horticultural trade. It produces a profusion of small white flowers, sometimes with red guidelines in the throat, giving a slight pinkish cast. It blooms from May until July and grows from 4 inches to 16 inches tall. It does well in poor gravelly soils and is perfect as a rock garden accent plant.

Penstemons are native to a variety of habitats. The conditions prevalent within the native habitat of a species give clues about its cultural requirements in a garden setting. Some species will thrive only under a narrow range of conditions based on their unique native habitats, while others are more broadly adaptable to a range of conditions. Davidson’s penstemon (Penstemon davidsonii) is a low-growing plant that forms a dense clump of creeping woody stems with evergreen foliage. It is found at elevations from 5,600 feet to 12,000 feet. Because it is adapted
to areas that are snow-covered in winter, it benefits from protection from winter sun in areas without consistent snow cover, to prevent burning of the foliage. It prefers full sun during the growing season but tolerates part shade, especially during the early morning hours. Lovely lavender-blue flowers that are large for its less than 10-inch erect stems make this species a good choice for rock gardens in northern lower elevation areas and in our high-desert climate.

Pineleaf penstemon (Penstemon pinifolius) is a shrubby evergreen found in gravelly soils on rocky slopes at elevations from 6,000 feet to 8,500 feet in the desert southwestern U.S. Despite its southern native range, it can be successfully grown in northern climates if placed among heat-collecting rocks in a south-facing exposure. The leaves of pineleaf penstemon, as the name suggests, are tiny and needle-like, and the scarlet to orange-red flowers are small and narrow but densely spaced along 15-inch stems. It is a good example of a species that performs best in soils that provide excellent drainage. Beardlip penstemon (Penstemon barbatus) is similarly native to dry mountainous habitats at elevations from 4,450 feet to 8,700 feet. Unlike most western U.S. penstemons that are short-lived in the higher-nutrient and wetter soils typical of many garden settings, beardlip penstemon is broadly adaptable to such conditions, as long as it gets full sun and excellent soil drainage. It blooms best in full sun but also tolerates part shade, especially in western climates where precipitation is sparse and the sun is intense. The flowers of Beardlip penstemon are shaped like a shark’s head and have long-lasting scarlet colored blooms on 2-foot-tall to 4-foot tall stalks.

Rocky Mountain penstemon (Penstemon strictus) has a broad native range, growing at higher elevations between 6,700 feet and 10,750 feet in the Rocky Mountains, and in Utah, Wyoming, New Mexico and Arizona. Although many penstemon species have a shortened lifespan in soils that hold too much water, Rocky Mountain penstemon will tolerate these conditions but may be
floppy and less brightly colored than plants grown in well-drained soil. In contrast, Sunset Crater penstemon (Penstemon clutei) is narrowly endemic to the volcanic soils in Sunset Crater at 7,000 feet near Flagstaff, Arizona. Despite its very narrow native range, Sunset Crater penstemon is broadly adaptable to a variety of soil types, easy to grow and long-lived. Like other penstemons, however, it will look its best in full sun and well-drained infertile soil.

**Penstemons are easy to care for.** This is especially true if you select species native to our region. Most penstemons love full sun and will do especially well on the south or west side of your home. They thrive in sandy, rocky soils that drain quickly. If your garden soil is clayey or shallow, you may need to create a raised bed of sand or gravel to keep the tender crown (base of the plant) out of standing water. The best soil amendment for penstemons is high-quality aged compost applied sparingly; or better yet use nothing at all, as most penstemons prefer infertile soils. Hybrid varieties may benefit from a light application in spring of a slow-release low-nitrogen fertilizer to support their long bloom period. Pruning your penstemons is not necessary, but cutting back the stems after flowering may encourage repeat blooms and extend the life of your plants.

Most penstemons grow from a basal rosette of leaves and bloom in their second year after planting. Some penstemons are short-lived, lasting only two to three years, and others may live four years or more. Penstemons will self-sow, so be prepared for them to move around your garden. If your style of gardening is neat and tidy, deadhead the flowers before they go to seed. Many penstemon species also readily hybridize with one another. When you plant more than one species in close proximity, don’t be surprised to find sports that don’t look exactly like what you originally planted. This is part of the joy of gardening with native plants.
**Growing penstemons may conserve landscape water.** Most native penstemons are drought-tolerant, so be careful not to overwater. Drip irrigation is best. Overwatering, especially in heavy soils, puts too much water around the base of the plant and may promote crown rot. You can protect the sensitive crowns by using a rock or gravel mulch or by pulling organic mulch a few inches away from the stems. Hybrid penstemon varieties may require more frequent watering and will benefit from filtered shade. Once the bloom period is over, cut back on watering frequency for all penstemons.

**Penstemon gardens represent a low fire hazard.** Herbaceous plants, such as penstemons, are the best choice for gardens within 30 feet of homes or other structures. They have a high moisture content and die back or are cut back during late summer and fall when fire season is at its peak. You can even plant penstemons within 5 feet of your home if you irrigate them regularly and use a noncombustible mulch, such as rock or gravel.

**Penstemons attract pollinators.** Penstemon flowers are built for pollinators. Red-flowerer penstemons, such as firecracker penstemon, have deep throats and are irresistible to hummingbirds, which enjoy sipping nectar from the base of the flower through their long beaks. Bumblebees are attracted to the larger-flowered varieties, such as Palmer’s penstemon. Even butterflies will visit your garden to sample the nectar of penstemons. If you plant native penstemons, they will attract a variety of native pollinators. Encouraging native pollinators is good for ecosystem diversity and supports local fruit and vegetable production, which relies on pollination for good harvests.

**For complete article and pictures:**

September is the month for planting cold hardy fall annuals which bloom profusely the following spring. Bluebonnets germinate in the fall, their tops remaining small and inconspicuous while developing a massive root system throughout the winter, and then they provide a riot of color during the following April and May.

Although heat is needed to germinate the seed, cool weather is needed to develop the bluebonnet's root structure.

Successfully cultivating bluebonnets lies in knowledge of the seed. One might think that any seed, if viable, will grow when planted; not so with the bluebonnet. Nature has structured the bluebonnet seed in such a way that only a small percentage of the seed germinates during the first season after planting. This delayed germination ensures species survival during periods of adverse growing conditions such as prolonged drought. Nature may want to ration bluebonnet seed germination but we want each and every seed to germinate.

To ensure rapid, high percentage germination, the bluebonnet seed has to be treated to remove inhibiting properties of the seed coat which otherwise prevent water uptake and the initiation of growth. This process of seed treatment is referred to as scarification. Seed which has been properly scarified will germinate within 10 days after planting in a moist soil. Seedlings of scarified seed are also more vigorous.

Bluebonnets will thrive in any soil as long as it is well drained. If you are plagued with a sticky clay soil, try building raised (6 inches or more) planting beds and amending the soil with 3-4 inches of organic matter. Don't keep the soil too wet; just keep it slightly moist. Remember that once plants become established (two or three weeks after planting), they are drought tolerant.

When actually planting bluebonnet seed the seed MUST be lightly covered or raked into the soil.

During early growth, bluebonnets form ground-hugging rosettes. The whole plant may not be over several inches tall but the leaves may cover an area the size of a dinner plate. This is a natural condition and regardless of how much one waters or fertilizes, the plant will not grow rapidly until the warmth of spring initiates flower stalks. It is also natural for the lower leaves to turn a crimson color after the first freeze. Beneath the rosette of leaves, a large mass of roots is growing. These roots have the ability to form nitrogen-fixing nodules which are filled with beneficial bacteria that can take nitrogen from the atmosphere and feed the plant. This means that fertilization can also be kept to a minimum.

Major enemies of bluebonnet seedlings are small, nocturnal menaces referred to as pillbugs, rolly-pollies, sowbugs, and several other names which should not be mentioned in polite company. These hungry devils can devour plants overnight. Many times the devastating onslaught does not occur immediately after planting. To ensure seedling and transplant survival, it is wise to be prepared.

In addition, bluebonnets make great plants for containers such as whiskey barrels and terracotta pots. The pots should be filled with a potting mix which drains well and placed in a sunny location. The following spring, as the bluebonnets fade, replace them with your favorite heat loving flowers.