

Choosing the *Right* Plants

FOR NORTHERN NEVADA'S HIGH FIRE HAZARD AREAS



EXTENSION

College of Agriculture,
Biotechnology & Natural Resources

Choosing the *Right* Plants

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Reduce the fire hazard

Much of northern Nevada is considered a high fire hazard environment.

It possesses the right kind of weather, vegetation and topography to support wildfire. Within this high fire hazard environment are individual houses, subdivisions, and even entire communities. Unfortunately, many of these homes are not prepared to survive a wildfire.





“Of factors associated with structures, the presence of ornamental vegetation was the second highest cause of structure loss in the Oakland Hills fire.”

Categorical Data Analysis of the Oakland Hills Fire
D. A. Gordon, UC Berkeley Masters Thesis

*Photo courtesy of Candice Towell
and the Reno Gazette-Journal*

Attributes of low and high fire hazard environments

The wildfire threat is not the same to every home, but varies according to the characteristics of the fuel, weather, and topography. These three components of the fire environment determine the ease of fire ignition, speed and direction a fire will travel, and the intensity at which a fire will burn. A home located at the top of a steep, south-facing slope that is covered with dense sagebrush and dried grass on a dry, hot, windy day constitutes a high fire hazard. On the other hand, a home located on flat terrain, surrounded by a well-maintained and irrigated landscape on a cool, calm, humid day represents a much lower degree of wildfire threat. Since weather and topography cannot be altered, the only opportunity to reduce the fire hazard lies in changing the characteristics of the fuel. Wildfire fuels include naturally occurring plants such as sagebrush, ornamental plants in the residential landscape, and wood building materials.

| COMPONENTS | | LOWER FIRE HAZARD | HIGHER FIRE HAZARD |
|------------|-----------------------|---|--|
| FUEL | Fuel Load | Small amounts of fuel present | Large amounts of fuel present |
| | Size and Shape | Large size fuels (greater than 3 inches in diameter) | Small size fuels (1/2 inch or smaller in diameter) |
| | Moisture Content | High moisture content, such as healthy, actively growing flowers and lawn | Low moisture content, such as dead branches and dried grass |
| | Vertical Arrangement | Ladder fuels absent | Ladder fuels present |
| | Horizontal Continuity | Patchy and widely spaced fuels | Dense fuels, growing close together and continuously |
| | Compactness | Low-growing, dense and compact fuels | Open, upright and loosely arranged fuels |
| | Chemical Content | Fuels consist of plants without shiny, waxy, oily or resinous leaves, twigs, and branches | Fuels consist of plants with shiny, waxy, oily, resinous leaves, twigs, and branches |
| WEATHER | Wind | No wind | High winds |
| | Relative Humidity | High humidity | Low humidity |
| | Precipitation | Wet | Dry |
| | Temperature | Low temperature | High temperature |
| TOPOGRAPHY | Steepness of Slope | Flat, level terrain | Steep, sloping terrain |
| | Slope Position | Base of slope | Upper reaches of slope |
| | Aspect | North-facing slopes | South- and southwest-facing slopes |
| | Topographic Feature | Open area | Box canyons, narrow canyons, ridge tops |

The ember threat

Wildfire threatens homes in three ways: contact by flames, radiated heat, and embers. More houses burn due to embers than any other cause. If fire conditions are right, embers can be lofted high into the air and transported more than a mile. Embers can also be carried by wind and fire whirls. If embers land in easily ignitable materials, such as dried grass, fallen leaves, wood shake roofs, and dead branches, a new fire can start.



Photo by Cat Allison, The Nevada Appeal

Embers landed in some dried weeds and shrubs and started a fire that threatened this house.



More houses burn due to embers than any other cause.

A key component to an effective defensible space is the selection and use of less hazardous plants in the residential landscape.

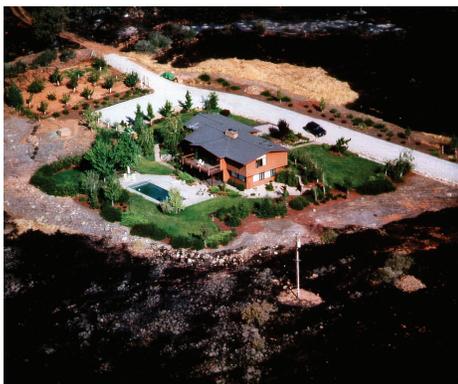


Photo courtesy of California Department of Forestry and Fire Protection

The pre-fire activities implemented by this homeowner included a green and well-maintained landscape, reduction of wildland vegetation around the perimeter of the property, a fire-resistant roof, and a good access road with a turnaround area.

Reducing the wildfire threat

The most important person in preventing a house from being destroyed by wildfire is the homeowner. And, it is the actions that a homeowner takes before a fire occurs that are critical. One of the most important “pre-fire” activities that a homeowner can do is the creation of a defensible space.

Defensible space is the area between a house and an oncoming wildfire where the vegetation has been managed to reduce the wildfire threat and allow firefighters to safely defend the house. In the event that firefighters are not available, defensible space also improves the likelihood of a home surviving without assistance.

A key component of an effective defensible space is the selection and use of less hazardous plants in the residential landscape. This publication presents and describes some good landscape plant choices for northern Nevada’s high fire hazard areas.

Why plant selection is critical

Home survival during wildfire is greatly influenced by the characteristics of the vegetation growing adjacent to the house. Consequently, the selection and maintenance of plants in the residential landscape should be important considerations for Nevadans living in high fire hazard areas. Ideally, the area within at least 30 feet of the house should emphasize landscape plants that are difficult to ignite by burning embers, and if ignited, do not produce sufficient heat to ignite the house. These plants should be routinely maintained to keep them healthy, vigorous, and free of the dead material.

Unfortunately, there are no “fireproof” plants. Any plant will burn if exposed to enough heat for a long enough period of time. There are, however, considerable differences among plants in regard to being a fire hazard. Some plants are harder to ignite, generate less heat when burning, and produce shorter flames than other plants. These differences can be attributed to both inherent characteristics, such as naturally occurring differences among plant species, and cultural practices, such as pruning and irrigation.

Choosing the right plants

Unlike roofs and other building materials, plants are not rated according to their fire resistance based on standardized laboratory tests. Despite this, there are many “fire-retardant” and “firewise” plant lists available to the homeowner. These lists are often

simply based on anecdotal information and may not be accurate.

However, there are a number of plant characteristics that homeowners living in high fire hazard areas should look for when selecting plants for their landscapes. The plant choices suggested in Part 2 of this guide are based on these characteristics:

High Moisture Content: For a plant to ignite, it must be exposed to enough heat to evaporate the water from the plant tissue. Once ignited, plants with high moisture content also burn more slowly and less intensely than those with low moisture content. Herbaceous and succulent vegetation possess the highest moisture content. Herbaceous plants are nonwoody plants, such as grasses, annual and perennial flowers, bulbs, and some ground covers. When green and actively growing, typically requiring irrigation during fire season in Nevada, herbaceous plants may be 65 percent to 80 percent water by weight. Succulent plants, such as iceplant, may be up to 85 percent water by weight during the growing season. Once herbaceous and succulent plants dry out and turn yellow, they can be less than 10 percent water by weight, are a fire hazard, and should have their top-growth removed. Woody plants, such as trees and shrubs, consist of 35 percent to 50 percent water by weight when actively growing. Deciduous woody plants usually have a higher moisture content than evergreen types.

Low-Growing Habit: Plants that are low-growing typically produce shorter flames and have less fuel than taller plants. Select shrubs that grow to a height of less than 2 feet at maturity or that can be maintained at this height through pruning.

Lack Flammable Chemicals: Many evergreen woody plants, such as juniper, pine, and arborvitae, contain flammable chemicals. As these plants heat up from an approaching fire, some of the chemicals turn into combustible gases surrounding the plant. Once ignited, these gases and plants can burn very intensely. Deciduous shrubs and trees are better choices because they usually do not contain these flammable chemicals.

Once ignited, plants with high moisture content also burn more slowly and less intensely than those with low moisture content.

Cerro Grande Fire

Los Alamos,

New Mexico 2000

235 homes destroyed

“My examination suggests that the abundance and ubiquity of pine needles, dead leaves, cured vegetation, flammable shrubs, wood piles, etc. adjacent to, touching and or covering the homes principally contributed to the residential losses.”

Investigation of the Cerro Grande Fire

Jack Cohen, Ph.D.,
USDA Forest Service

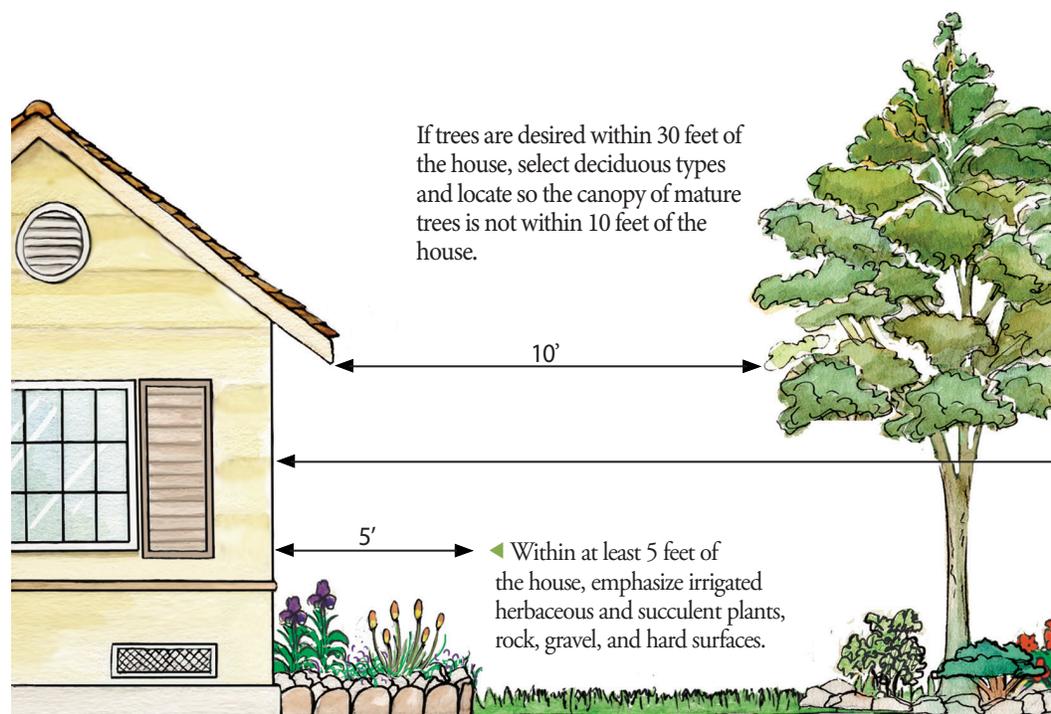
Based on these characteristics, homeowners living in high fire hazard areas should select the following types of plants for use within 30 feet or more of the house:

- ❌ Emphasize herbaceous plants, such as lawn, conservation grasses, some ground covers, annual and perennial flowers, and bulbs.
- ❌ Use deciduous shrubs that are less than 2 feet in height.
- ❌ Select deciduous trees.
- ❌ Do not use evergreen shrubs and trees within this area.

Pages 14-51 offer examples of plants that meet these criteria.

Not only are these plants good choices for high fire hazard landscapes, they are also easily grown in many areas of northern Nevada. They are presented under headings: *Flowers, Ground Covers & Conservation Grasses, Shrubs, and Trees*. Please note there are other plants not shown in this publication that would work equally as well.

The plants presented in this publication as good plant choices for high fire hazard areas possess the desirable characteristics described above. Test results documenting reduced flammability are not available for plants adapted to northern Nevada's growing conditions.





Ideally, the area within at least 30 feet of the house should emphasize landscape plants that are difficult to ignite by burning embers, and if ignited, do not produce sufficient heat to ignite the house. These plants should be routinely maintained to keep them healthy, vigorous, and free of dead material. (Note: Wood and shredded rubber mulches can be a fuel source and should not be used within 5 feet of the house.)

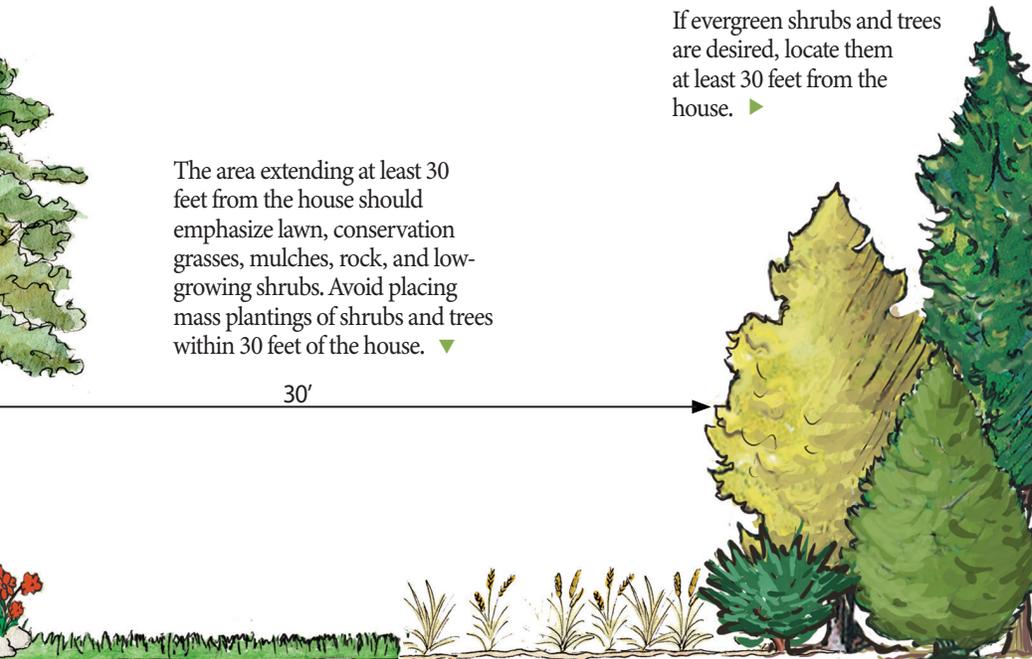
**Oakland Hills Fire,
California 1991
2,449 homes destroyed and
25 lives lost**

“The juniper and cedar are mostly present as ornamental vegetation around many homes. A dry-climate species, the juniper also ignites easily and burns intensely. Cedars are similar. Placement of these and other ornamental vegetation adjacent to combustible portions of the homes was a significant ignition scenario in this fire.”

If evergreen shrubs and trees are desired, locate them at least 30 feet from the house. ►

The area extending at least 30 feet from the house should emphasize lawn, conservation grasses, mulches, rock, and low-growing shrubs. Avoid placing mass plantings of shrubs and trees within 30 feet of the house. ▼

30'



Oakland Berkeley Hills Fire
National Fire Protection Association

Plants that are considered to be good choices can become fire hazards through neglect.



Many evergreen woody plants, such as juniper and arborvitae, contain flammable chemicals. Evergreen plants possessing these chemicals can burn very intensely once ignited.

Cultural practices also play a key role

Cultural practices, such as location of the plant, maintenance and irrigation, are equally as important as plant species selection in terms of wildfire threat reduction. Plants that are considered to be good choices can become fire hazards through neglect. Some key recommendations regarding landscape cultural practices for high fire hazard areas include:

Placement and Spacing

- Do not plant shrubs in front of foundation vents or under eave vents.
- Burning embers often accumulate around the base of the house during a wildfire. The area within 5 feet of the house should emphasize irrigated herbaceous and succulent plants, noncombustible mulches and hard surfaces.
- Do not plant trees in front of large picture windows.
- Plant trees so there will be at least a 10-foot separation between canopies at maturity. The canopy of mature trees should not be within 10 feet of the house.
- Avoid large, mass plantings of shrubs and trees within 30 feet of the house. Appropriate spacing between plants can reduce the spread of fire. It also enhances the aesthetic value of individual plants. Another advantage is that fewer plants use less water, important for water conservation in an arid environment. Consider use of boulders, stone, noncombustible mulches, and hard surfaces in lieu of a multitude of plants. Do not plant evergreen shrubs and trees within 30 feet of the house.

Maintenance

- Remove dead vegetation, such as fallen leaves and needles, dead branches, dried grass and dry flowers, prior to and throughout fire season.

Irrigation

- Irrigate sufficiently to maintain high plant moisture content during fire season.

Pruning

- Remove low tree branches to a height of at least 10 feet. Also remove small trees and shrubs from under the tree canopy. This will help prevent a surface fire from reaching the tree canopy. Do not remove more than a third of the total tree branches.

Placement



Maintenance



Irrigation

Pruning

Southern California Fires of 2003

3,340 homes destroyed and 23 lives lost

“Ornamental vegetation created an unpredictable and significant fuel source that blew into attic vents and eaves and spread through neighborhoods by torching, crowning, or throwing embers. Structures became involved from ember attack from the inside out rather than flame impingement.”

Southern California Firestorm 2003
Report for the Wildfire Lessons Learned Center

How to Use This Guide

The plants in this guide are alphabetized by their scientific or botanical name, which is followed by the common name.

Below the plant name, you'll find a series of icons that gives a quick indication of the special needs and some qualities of each plant.

The text with each plant gives additional information that should help you to make the best selection to meet your landscape needs.

CHOOSING THE RIGHT PLANTS FOR NORTHERN NEVADA'S HIGH FIRE HAZARD AREAS



Achillea millefolium

Achillea species



Yarrow – Yarrow has many heights and flower colors, depending on the species. It is good used as a cut or dried flower, in flower borders, meadow mixes or native areas. Best grown in full sun, well-drained soil, and a watering zone that is irrigated one or two times per week. This plant is not bothered by rabbits, squirrels or deer. Use varieties that grow 2 ft. tall or less.

Agastache cana



Bubblegum Mint – As you might guess from its name, the flowers of this plant smell like bubblegum. They are pale pink to rose pink and bloom July-September. Grow in full sun, well-drained soil and water one or two times per week.



Agastache cana



Alcea rosea

Alcea rosea



Hollyhock – An old-fashioned garden favorite that can still be found blooming at many abandoned home sites. Because the flower spike is so tall, plant away from the house. Flowers may be white, pink, red, purple, orange or yellow and bloom in June. Plant in full sun, any garden soil, with once-a-week watering. This plant is not bothered by rabbits, squirrels or deer.

Antirrhinum majus



Snapdragon – These are a cut flower favorite because of their long vase life and many colors (pink, red, yellow, white). They range in height from 6 in. to 3 ft. and spread 1 ft. to 2 ft. wide, depending on the variety, so use the shorter types. Plant in full sun with well-drained soil, in a twice-a-week watering zone and feed while blooming.



Antirrhinum majus



Armeria maritima

Armeria maritima



Sea Pinks – This evergreen perennial has a clumping, grass-like appearance. The ball-shaped flower heads may be pink, red or white and bloom June-August. Plant in full sun and well-drained soil, water twice a week and feed annually with slow-release fertilizer. Grows 6-12 in. tall and about 1 ft. wide and is suitable as an edging, in the rock garden or massed in a planter. This plant is not bothered by rabbits, squirrels or deer.

Aster species



Aster – Asters fall into two categories: spring-blooming or fall-blooming. They are prolific bloomers that are often used in flower arrangements. Plant in full sun and well-drained soil, and water twice weekly. They are vigorous growers that need to be divided every two or three years. This plant is not bothered by rabbits, squirrels or deer.

A. frikartii (Frikart's Daisy) – 2 ft. tall by 2 ft. wide; lavender flowers May-July.

Taller plants should be used sparingly within 30 ft. of the house:

A. novi-belgii (New York Aster) – 3 ft. tall by 2 ft. wide; blue, violet flowers August-September.



Aster 'Snowbird'

16 • UNIVERSITY OF NEVADA, RENO EXTENSION

 Full Sun

 Part Shade

 Low Growing

 Moderate (twice a week)

 Low (once a week)

 Very Low (7-14 days)

 Deep Water (7-10 days)

 Deep Water (10-14 days)

 Extra Humidante

 Saprotrophic Sensitive

Descriptive photo

Botanical name

Icons for quick reference of special needs and features

Common name

Vital plant information

Bottom of each page has complete list of reference icons

Please keep in mind the following:

- Designing a landscape using predominantly water-efficient plants can save a great amount of water. A water-efficient plant is one that lives on a twice-a-week (or less) watering schedule and tolerates drought conditions. Keep plants green during fire season.
- Group plants together in your landscape design that have similar soil, sunlight and water requirements. If you are developing a landscape design or adding to an existing landscape, determine each plant's sunlight and water requirements by referring to this guide. Choose plants with needs similar to those of existing plants in close proximity.
- Choose your plants carefully. Plants shown in this guide do well in our region. All plants available for purchase locally

are not necessarily suitable for growing in our climate or good choices for landscapes in high fire hazard areas, so plan wisely.

- Most plant publications will refer to a plant's viability based on climate zone. The U.S. Department of Agriculture (USDA) has established climate zones based on the range of low temperatures that a plant can tolerate. The climate zone in much of northern Nevada is USDA Zone 4b, which has a low temperature range of -20 F to -25 F. Plants needing a warmer climate as indicated by a higher zone number are not recommended.

Good planning and appropriate plant selection will result in an attractive landscape that is also effective in reducing the fire threat to your home.

| ICON | NAME | DESCRIPTION | ICON | NAME | DESCRIPTION |
|---|-------------------|--|---|--------------------------|--|
|  | Full Sun | At least 8 hours of unobstructed sun daily |  | Temperature Sensitive | Zones 5 & 6 require warmer climate; not conducive to outlying valleys and foothills |
|  | Part Shade | 3-5 hours of sun daily |  | Bees | Indicates habitat or food source |
|  | Less than 2' tall | Grows 2 feet tall or less |  | Birds | Indicates habitat or food source |
|  | Moderate | Water twice a week |  | Butterflies | Indicates habitat or food source |
|  | Low | Water once a week |  | Cut Flowers | Useful as a cut or dried flower in flower arranging |
|  | Very Low | Water every 7-14 days |  | Fall Color | Leaves turn color during fall months |
|  | Deep Water | Water established trees every 7-10 days |  | Utility Tree | Height of tree at maturity will not interfere with overhead utility lines |
|  | Deep Water | Water established trees every 10-14 days |  | Native | Plant is native to Nevada |
|  | Extra Maintenance | Requires more than annual pruning, winter protection, spraying for pests, etc. |  | Within 30' Feet of House | Use only as specimen plant within 30 feet of house; use more extensively outside this area |

2

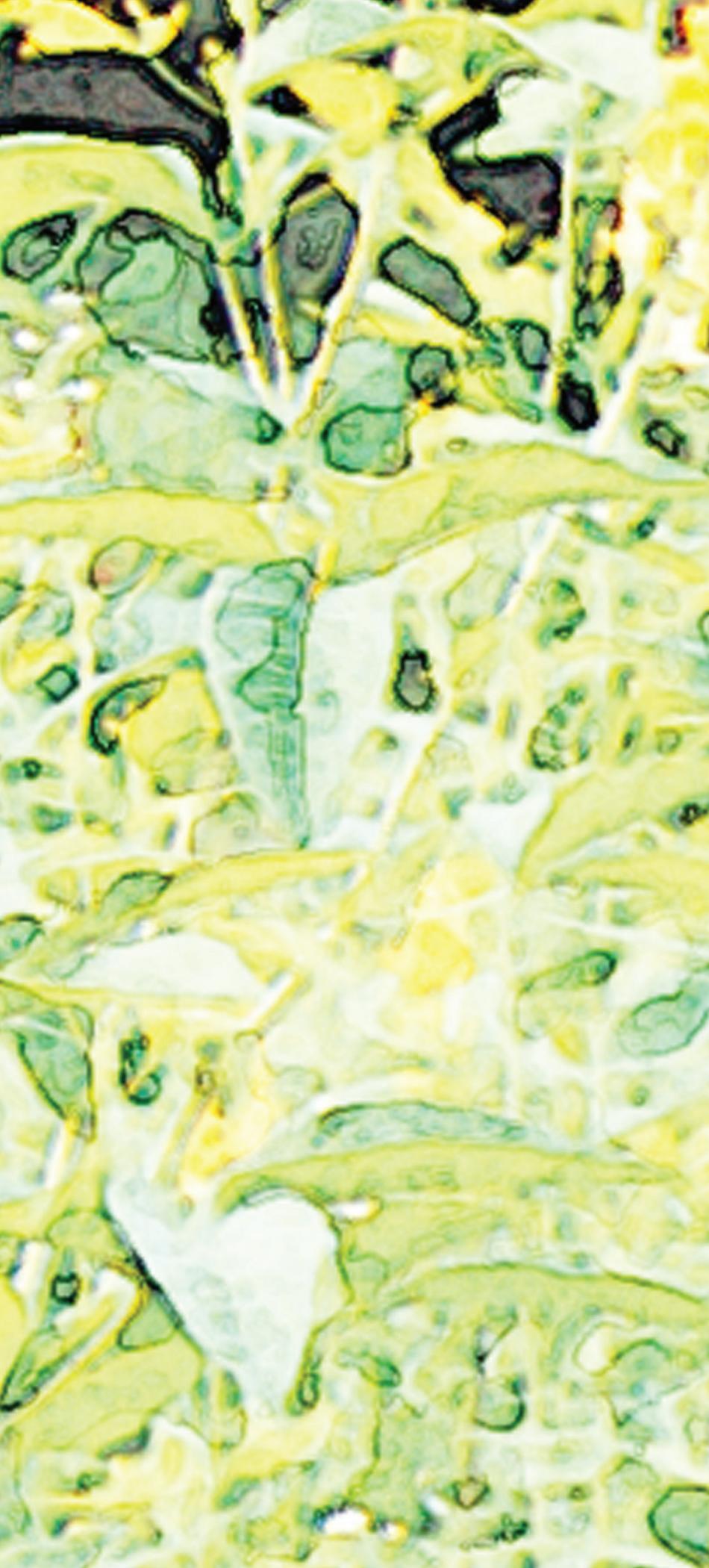
Choose the right plants

Emphasize the use of flowers within 30 feet of the house.

Keep them irrigated while they are actively growing during fire season. Once they dry out, remove dying and dead top growth.



Flowers



| BOTANICAL NAME | COMMON NAME | PAGE |
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Achillea millefolium

Achillea species



Yarrow – Yarrow has many heights and flower colors, depending on the species. It is good used as a cut or dried flower, in flower borders, meadow mixes or native areas. Best grown in full sun, well-drained soil, and a watering zone that is irrigated one or two times per week. This plant is not bothered by rabbits, squirrels or deer. Use varieties that grow 2 ft. tall or less.

Agastache cana



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Agastache cana



Alcea rosea

Alcea rosea



Hollyhock – An old-fashioned garden favorite that can still be found blooming at many abandoned home sites. Because the flower spike is so tall, plant away from the house. Flowers may be white, pink, red, purple, orange or yellow and bloom in June. Plant in full sun, any garden soil, with once-a-week watering. This plant is not bothered by rabbits, squirrels or deer.

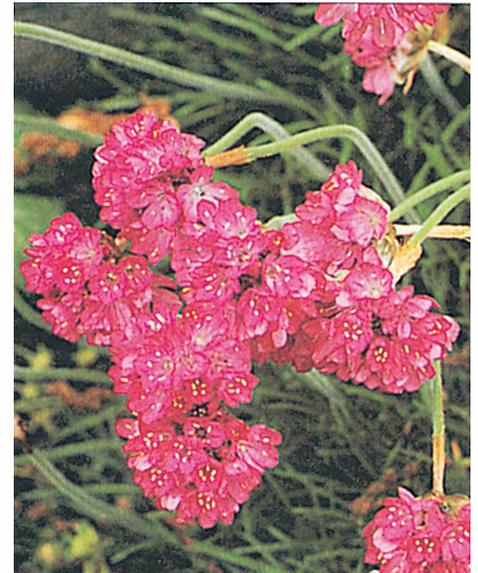
Antirrhinum majus



Snapdragon – These are a cut flower favorite because of their long vase life and many colors (pink, red, yellow, white). They range in height from 6 in. to 3 ft., and spread 1 ft. to 2 ft., depending on the variety, so use the shorter types. Plant in full sun with well-drained soil, in a twice-a-week watering zone and feed while blooming.



Antirrhinum majus



Armeria maritima

Armeria maritima



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Aster species



Aster – Asters fall into two categories: spring-blooming or fall-blooming. They are prolific bloomers that are often used in flower arrangements. Plant in full sun and well-drained soil, and water twice weekly. They are vigorous growers that need to be divided every two or three years. This plant is not bothered by rabbits, squirrels or deer.

A. frikartii (Frikart's Daisy) – 2 ft. tall by 2 ft. wide; lavender flowers May-July.

Taller plants should be used sparingly within 30 ft. of the house:

A. novi-belgii (New York Aster) – 3 ft. tall by 2 ft. wide; blue, violet flowers August-September.



Aster 'Eventide'



Aurinia saxatilis

Aurinia saxatilis



Basket-of-Gold – Low-growing perennial whose brightly colored flowers of yellow gold welcome spring, usually in April. Grows 8 in. tall by 12 in. wide when given full sun and well-drained soil, and watered once a week.

Coreopsis species



Tickseed – Consistent bloomer all summer long if old blossoms are removed as they fade. All varieties prefer full sun, well-drained soil and twice-a-week watering. Divide plants every two or three years to maintain vigorous plantings.

C. grandiflora (Coreopsis) – 1-2 ft. tall by 1 ft. wide; orange to yellow flowers June-August.

C. lanceolata (Lanceleaf Coreopsis) – 1-2 ft. tall by 1 ft. wide; yellow flowers June-September.

C. verticillata ‘Golden Showers’ – 2 ft. tall by 2 ft. wide; yellow flowers July-August.

C. v. ‘Moonbeam’ – 2 ft. tall by 2 ft. wide; pale yellow flowers June-September.

Taller plants should be used sparingly within 30 ft. of the house:

C. verticillata (Threadleaf Coreopsis) – 1½-3 ft. tall by 3 ft. wide; yellow flowers July-September.



Crocus species

Crocus species



Spring Crocus – These delightful little bulbs are one of the first flowers to burst out of the snow in spring. They have bowl-shaped flowers that may be solid or striped, in shades of white, yellow, pink or purple. Plant 2 in. deep and about 3 in. apart in well-drained soil and full sun to light shade. Crocus are very well suited to planting within turf. They bloom in February or March when the turf is dormant, providing visual interest to an area usually devoid of life for another month. To plant, dig out a small circle of turf, plant bulb 2-3 in. deep and replace the turf over it. Mow high (3-4 in.) through April to allow crocus to manufacture food for next season.



Coreopsis grandiflora



Dianthus barbatus

Dianthus species



Pinks – Dianthus are part of a large family of 300+ species as a result of hybridization. All prefer full sun, excellent drainage and once- to twice-a-week watering. Divide clumps every two or three years. Not bothered by rabbits, squirrels or deer.



Dianthus plumarius

D. x ‘Alwoodii’ – gray-green leaves; flowers white, pink, rose or red June-July.

D. barbatus (Sweet William) – 1 ft. tall by 1 ft. wide; green leaves; fragrant maroon, red or pink flowers May-June.

D. deltooides (Maiden Pink) – 6-12 in. tall by 24 in. wide; green leaves; red, pink, white or purple flowers; shear after bloom.

D. gratianopolitanus (Cheddar Pink) – 1 ft. tall by 1 ft. wide; gray-green leaves; fragrant pink, red or rose flowers May-September if old flowers removed following bloom.

D. plumarius (Cottage Pink) – 2 ft. tall by 1 ft. wide; gray leaves; white, pink or red flowers in June.

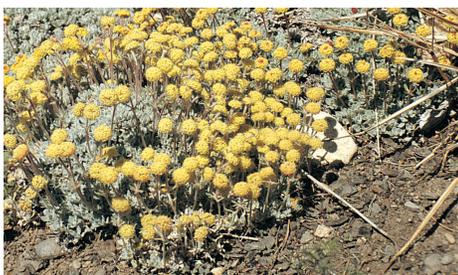


Echinacea purpurea

Echinacea purpurea



Coneflower – This striking member of the daisy family grows 3 ft. tall and 2 ft. wide when given full sun and well-drained soil and twice-a-week watering. It has purplish-red flowers that bloom in late June and make great cut flowers.

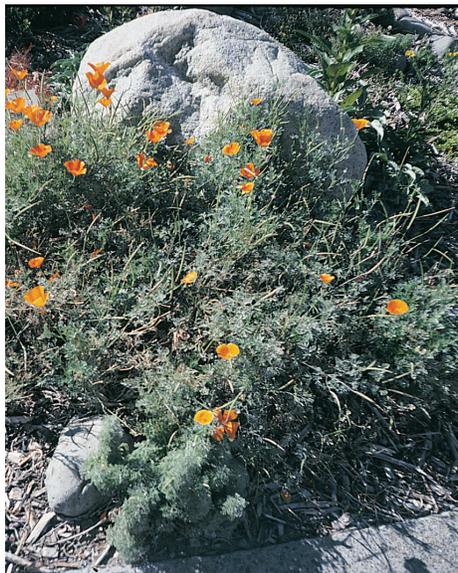


Eriogonum umbellatum

Eriogonum umbellatum



Sulfur-flowered Buckwheat – This native plant will form a 3-ft.-wide mat when grown in full sun and gritty well-drained soil, and watered once every seven to 10 days. It bears creamy to pale yellow clusters of flowers that will take on a red tinge with age. The bloom lasts four to six weeks, beginning in July. This plant is not bothered by rabbits, squirrels or deer.



Eschscholzia californica

Eschscholzia californica



California Poppy – A reliable performer in a low-water or wildflower area, blooming April-August. Requires full sun, well-drained soil and water once every seven to 10 days. Flowers most commonly are orange or yellow, although white or pink forms are also available. Seed at a rate of 3 pounds per acre for large-scale applications. This plant is not bothered by rabbits, squirrels or deer.

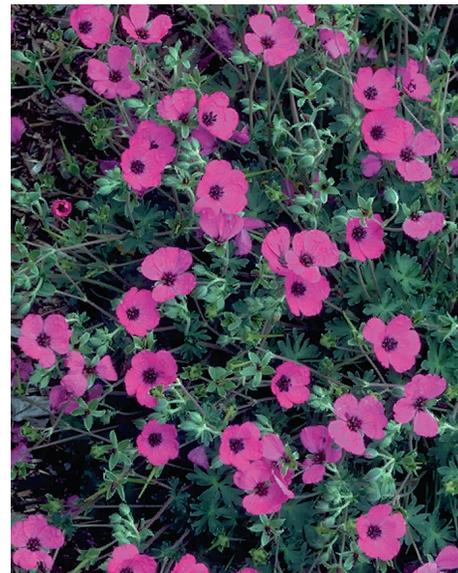
Gaillardia grandiflora



Blanket Flower – The bright orange and yellow flowers on this plant were named after the vivid colors seen on Indian blankets in the Southwest. It has gray-green foliage, grows 2 ft. tall and can grow equally as wide. It tolerates heat, poor soils and drought. Grow in full sun and well-drained soil, and water once to twice a week. It blooms July-August and needs to be sheared at the end of each season. Use in native areas or wildflower plantings where it has room to seed itself freely. This plant is not bothered by rabbits, squirrels or deer.



Gaillardia grandiflora



Geranium species

Geranium species



Hardy Geranium – These garden variety geraniums should not be confused with their tropical cousins, the Pelargoniums. Hardy geraniums grow 6-24 in. tall and equally as wide in full sun to partial shade. Plant in well-drained soil that is amended with organic matter and water twice a week. Flowers may be white, pink, purple or blue, and most varieties bloom July-September if fed in spring and fall. Short varieties are suitable as ground cover or edging, while taller varieties are nice in flower borders.

Hemerocallis hybrids



Daylily – Daylilies come in a variety of sizes and colors. Dwarf daylilies are 1 ft. tall and twice as wide; larger types may be up to 3 ft. tall with even taller stems. Daylilies grow successfully in amended, well-drained soil and full sun to partial shade, with twice-a-week watering. For longer flowering, feed every two or three weeks while blooming. Divide daylily clumps every three to five years. Mulch around them in winter.



Hemerocallis hybrids



Heuchera sanguinea

Heuchera sanguinea



Coral Bells – These dainty flowers are held high above the foliage May-June. The parent species has red flowers, but hybrid varieties may be pink, white or a coral-red color. Grow in full sun or partial shade and well-drained soil amended with organic matter, and water twice a week. Benefits from spring feeding with an acid plant food. This plant is not bothered by rabbits, squirrels or deer.



Iberis sempervirens

Iberis sempervirens



Candytuft – This evergreen perennial is covered with white flowers April-May. It is used as an edging between turf and flower borders very effectively, as it is only 6-10 in. tall. Grow candytuft in well-drained soil and full sun, and water twice a week. Shear off flowers after bloom to keep foliage dense and encourage another blossom set.



Iris germanica

Iris germanica



German Iris – There are six categories of bearded iris based on plant height, which may range from 8 to 36 in. tall. Iris can be grown easily in soil with good drainage amended with compost. Do not use animal manure, high-nitrogen fertilizers or mulches in iris beds, as they can encourage rhizome rot. Grow in full sun to light shade, and water one or two times a week in summer, but keep rhizomes dry during dormancy, November-March. This plant is not bothered by rabbits, squirrels or deer.

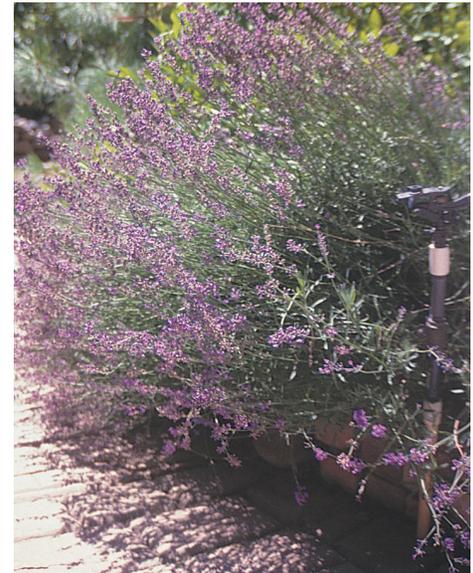
Kniphofia uvaria



Red Hot Poker – This perennial has evergreen leaves up to 4 ft. long. It has striking bicolored flowers in shades of yellow, orange and red. Bloom time varies by variety, but is usually June-August. It tolerates heat, drought and wind when planted in full sun and light, well-drained soil and watered twice a week. This plant is not bothered by rabbits, squirrels or deer.



Kniphofia uvaria



Lavandula angustifolia

Lavandula angustifolia



Lavender – This aromatic herb has flowers valued for their fragrance as well as their lovely purple color. Prefers full sun and well-drained, even rocky soil. Needs light pruning (1 in.) after bloom. It grows 1-3 ft. tall and as wide and needs protective mulch in winter when grown on exposed sites. This plant is not bothered by rabbits, squirrels or deer.

Lilium species



Lily – Grows 3-6 ft. tall and about 2-3 ft. wide when planted in an area with some afternoon shade. Benefits from soils that have been amended to a depth of 8-12 in. with bark compost, oak leaf mold and peat moss. Best bloom results when they are fed liquid fertilizer twice a month and watered twice a week. Provide protection during growing season if rabbits are a problem in your area. Many species and varieties are available.



Lilium x aurelianense



Linum perenne

Linum species



Flax – These durable perennials are tolerant of drought, heat, wind and cold. They prefer dry, light, well-drained soil, full sun and once-a-week watering. Not bothered by rabbits, squirrels or deer.

L. flavum (Golden Flax) – 1 ft. tall by 1 ft. wide; bright yellow flowers June-August; mulch in winter.

L. perenne (Blue Flax) – 18 in. tall by 12 in. wide; almost leafless stems; blue flowers; seeds easily, good in meadow mixes.

Narcissus species



Daffodil

or Narcissus – There are 50 species of narcissus, with thousands of cultivars available worldwide. Flowers range in height from 4 to 12 in. tall with blooms that may be 1-3 in. wide. They may be solid yellow or white, or combinations of the two colors; some new varieties have pink tones. By choosing different species, it is possible to have daffodils blooming continuously February-April. Plant in masses in full sun to light shade in any well-drained soil, and feed annually in fall with bone meal fertilizer. This bulb is not used by small mammals as a food source.



Nepeta racemosa

Nepeta racemosa



Catmint – This member of the mint family has lavender flowers borne at tips of the stems June-August. It has gray-green foliage that is about 1 ft. tall by 2 ft. wide. Prefers full sun or partial shade, any well-drained soil, and once-a-week watering. Good at front of the border or cascading off a wall. Tolerates browsing by small mammals.



Narcissus species



Oenothera speciosa

Oenothera species



Evening Primrose – Yellow, white or pink flowers that open in the morning or evening. Very tolerant of poor, even rocky soils as long as they are well-drained. Grows in full sun and blooms June-August on once-a-week watering. This plant tends to sow itself about the yard when conditions are right. Not bothered by rabbits, squirrels or deer.

O. caespitosa (Tufted Primrose) – 8 in. tall by 8 in. wide; white flowers, fragrant in the evening in July.

O. pallida (White Evening Primrose) – 18 in. tall by 12 in. wide; white flowers, fragrant in the evening June-September.

O. speciosa (Showy Primrose) – 1 ft. tall by 1 ft. wide; white or pink flowers, fragrant in the morning June-September.



Oenothera speciosa



Papaver orientale

Papaver species



Poppy – Poppies are best when planted in masses in areas where they can seed themselves freely. They need full sun, well-drained soil, and once- or twice-a-week watering. Not bothered by rabbits, squirrels or deer.

P. croceum (Iceland Poppy) – 12 in. tall by 6 in. wide; fragrant orange, white, yellow or red flowers May-June.



Papaver orientale

P. orientale (Oriental Poppy) – 2 ft. tall by 3 ft. wide; red, orange, white, pink or apricot flowers May-June.



Penstemon palmeri



Penstemon strictus

Penstemon species



Beard Tongue – Some penstemon varieties are native to Nevada; however, most commercially available types are hybrids. All benefit from full sun, well-drained soil with gravel or sand added, and once- to twice-a-week watering.

P. ambiguus (Prairie Penstemon) – 2 ft. tall by 2 ft. wide; white or pink flowers June-September.

P. eriantherus (Crested Tongue Penstemon) – 1 ft. tall by 1 ft. wide; gray-green leaves; lilac flowers.

P. newberryi (Mountain Pride) – 10 in. tall by 12 in. wide; dark green leaves; red or pink flowers in June.

P. strictus (Rocky Mountain Penstemon) – 2 ft. tall by 2 ft. wide; dark green leaves; purple flowers June-July.

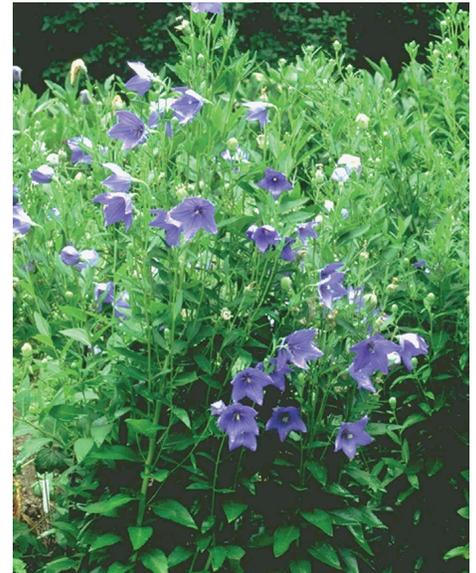
Taller plants should be used sparingly within 30 ft. of the house:

P. barbatus (Beard Tongue) – 4 ft. tall by 2 ft. wide; red-lavender flowers June-August.

P. eatonii (Firecracker Penstemon) – 3 ft. tall by 18 in. wide; blue-green leaves; red flowers June-August.

P. hirsutus (Hairy Beard Tongue) – 3 ft. tall by 2 ft. wide; dark green leaves; lavender flowers June-July.

P. palmeri (Palmer Penstemon) – 4 ft. tall by 1 ft. wide; gray-green leaves; pink blooms June-July.



Platycodon grandiflorus

Platycodon grandiflorus



Balloon Flower – This blue-flowering perennial delights children when the flowers open in July. It is easy to grow in sunny locations with well-drained soil. Balloon flower grows 3 ft. tall with equal spread when fed in spring and watered twice a week.



Rudbeckia fulgida

Rudbeckia fulgida



Black-eyed Susan – This is a garden favorite seen in many perennial borders. This member of the daisy family has orange or yellow petals and a dark center, and usually blooms August-September. Provide a location in full sun, with well-drained soil and twice-a-week watering.



Bees



Birds



Butterflies



Cut Flowers



Fall Color



Caution Within 30 Ft



Utility Tree



Native



Salvia superba

Salvia species



Sage or Salvia – Salvias are a great source of blue or purple in the garden. They prefer full sun or light shade, well-drained soil and twice-a-week watering. Many interesting hybrid varieties are available.

S. dorrii (Purple Sage) – 12 in. tall by 24 in. wide; purple flowers in July; native to Nevada.

Taller plants should be used sparingly within 30 ft. of the house:

S. x superba 'May Night' (May Night Salvia) – 3 ft. tall by 2 ft. wide; dark purple flowers July-August.

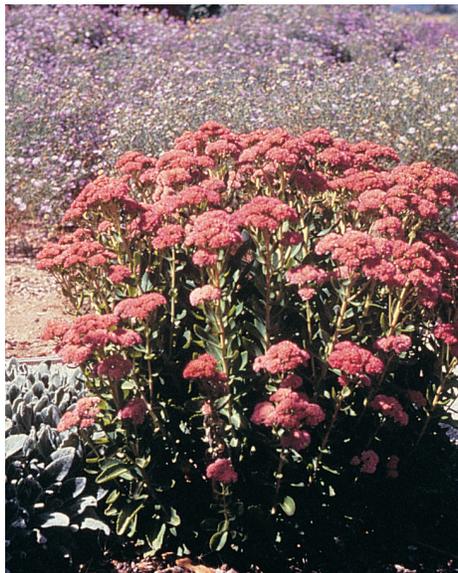
Saponaria species



Soapwort - This perennial is a delightful addition to the flower border. It thrives in areas of full sun, well-drained soil and once to twice-a-week watering. Best when cut back after flowering to maintain compact habit. Not bothered by rabbits, squirrels or deer.

S. ocymoides (Soapwort) – 6 in. tall by 18 in. wide; dark green leaves; bright pink flowers in June.

S. officinalis – (Bouncing Bet) – 2 ft. tall by 2 ft. wide; light green leaves; fragrant pale pink flowers June-September.



Sedum 'Autumn Joy'

Sedum species



Stonecrop – These succulents add interesting textural variety to the landscape, as well as showy flowers. They prefer full sun, well-drained soil, and division in fall every three years. Not bothered by rabbits, squirrels or deer.

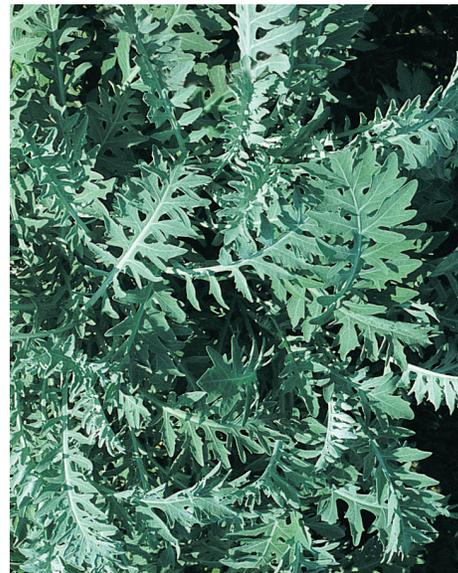
S. spectabile (Stonecrop) – 1½ ft. tall by 1½ ft. wide; bright pink flowers August-September.

S. telephium 'Autumn Joy' (Autumn Joy Sedum) – 2 ft. tall by 2 ft. wide; pink flowers July-August.

S. 'Rosy Glow' – 1 ft. tall by 1 ft. wide; pink flowers August-September.



Saponaria ocymoides



Senecio cineraria

Senecio cineraria



Dusty Miller – Grow dusty miller for its striking silvery white foliage, as its small yellow flowers are rather inconspicuous. It forms clumps 2 ft. tall by 3 ft. wide when grown in full sun and well-drained soil, and watered one or two times per week. This plant is not bothered by rabbits, squirrels or deer.

Tanacetum species



Painted or Michaelmas Daisy – These daisies are another old-fashioned garden favorite. Though they bloom at different times of the year, both will bloom over a period of three to four weeks and may rebloom if cut back after the first bloom. Finely divided aromatic leaves characterize these plants formerly classified as *Chrysanthemums*. Provide both with full sun to partial shade, sandy well-drained soil and twice-a-week watering. Not bothered by rabbits, squirrels or deer.

T. coccineum (Painted Daisy) – 1-2 ft. tall by 2 ft. wide; white, pink, or red flowers May-June.

T. parthenium (Feverfew) – 2 ft. tall by 1 ft. wide; light green leaves; white flowers



Tanacetum coccineum



Thermopsis montana

Thermopsis montana



False Lupine – Tall, 3-ft. spikes of yellow pea type flowers grace this plant June-July. It tolerates poor soil, heat and drought and is a good candidate for wildflower areas. Plant in full sun to partial shade and well-drained soil, and water once a week. This plant is not bothered by rabbits, squirrels or deer.

Tulbaghia violacea



Society Garlic – The name of this plant is derived from the scent given off by the leaves, which also helps protect it from rabbit damage. It has a fragrant purple flower that blooms July-September. It grows 18 in. tall and equally as wide when mulched in winter to protect its roots. Grow in full sun and well-drained soil, and water once a week.



Tulbaghia violacea



Tulipa species

Tulipa species



Tulip – The number of tulip varieties available today is limitless. They range in size from 4 in. tall (rock garden tulips) to 20 in. tall (mayflowering, Triumph or Emperor tulips). The flowers are available in every color imaginable, as well as solids, stripes and bicolors. Plant in full sun and well-drained soil, and water twice a week while blooming. Feed these bulbs annually in fall with bone meal fertilizer. These bulbs are much sought after as a food source by small mammals; protect accordingly.

Veronica spicata



Spike Speedwell – A dependable source of midsummer color when planted in full sun and well-drained soil. This plant has many hybrid varieties in various sizes and colors. Flowers are generally blue to white, occasionally pink, and about 2 ft. tall. Benefits from twice-a-week watering and protective winter mulch.



Viola cornuta

Viola species



Violet or Pansy – A large family (500 species) that is best known for the old-fashioned violets of the Victorian period. Low-growing plants best suited to the front of a border or edging a walkway. Plant in full sun to partial shade in well-drained soil, and water twice a week.

V. cornuta (Tufted Violet) – 4-12 in. tall by 12 in. wide; various colors; shear after first bloom for fall rebloom.

V. tricolor (Johnny-Jump-Up) – 6 in. tall by 6 in. wide; purple, white or yellow flowers May-September; will seed itself readily.



Veronica spicata

Choose low-growing plants

Plants that are low-growing typically produce shorter flames and have less fuel than taller plants. These plants are good choices for landscapes in high fire hazard areas.



Ground Covers & Conservation Grasses



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Agropyron cristatum

Agropyron cristatum



Crested wheatgrass – and other conservation grasses are used to control erosion, suppress weeds, create fuelbreaks, and serve other environmental purposes. Typically, they require little maintenance and no irrigation once established. Some of the popular conservation grasses for northern Nevada that grow to a height of less than 2 ft. include ‘Hycrest’ crested wheatgrass (*Agropyron cristatum*) (pictured above), ‘Luna’ pubescent wheatgrass (*Agropyron intermedium* var. *trichophorum*), and ‘Covar’ sheep fescue (*Festuca ovina*). These grasses can be a good replacement for sagebrush and other flammable shrubs. Once conservation grasses dry out, they should be mowed to reduce the fire hazard. Contact your local University of Nevada, Reno Extension, Nevada Division of Forestry, or Natural Resource Conservation Service office for advice on selecting conservation grasses suitable for your area.



Campsis radicans

Campsis radicans



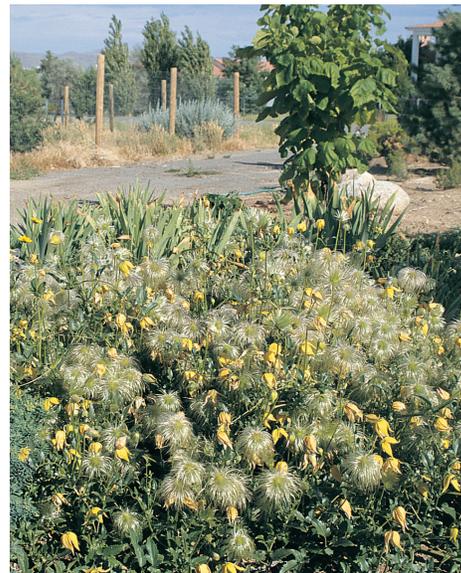
Red Trumpet Creeper – This vigorous vine climbs by means of aerial roots capable of adhering to wood, brick or stucco. To reduce the fire threat, grow this as a ground cover, rather than up a trellis or fence. It bears brilliant red-orange flowers August-October. Best planted in full sun and well-drained soil, and watered twice a week.

Cerastium tomentosum



Snow-in-Summer – A good plant on dry, sunny slopes. Vigorous grower when provided with good drainage, full sun and twice-a-week watering. Profuse white flowers sit above light gray foliage May-June. This plant is not bothered by rabbits or squirrels.

It is only 6-8 in. tall and grows to a width of 2-3 ft. in about two seasons if fertilized annually. Plant 12 in. on center.



Clematis tangutica

Clematis species



Clematis – These varieties don't have large showy flowers like their hybrid relatives, but make up for it with vigorous growth. They tolerate heat, wind, cold and drought with ease. To reduce the fire threat, grow this as a ground cover, rather than up a trellis or fence.

C. ligusticifolia (Western Clematis) – Up to 20 ft.; creamy-white flowers July-August. Plant 10 ft. on center.

C. tangutica (Golden Clematis) – Up to 10 ft.; yellow lantern-shaped flowers July-September. Plant 6 ft. on center.



Cerastium tomentosum



Delosperma cooperi

Delosperma cooperi



Hardy Purple Ice Plant – A useful ground cover in dry, well-drained soils. This ice plant only requires watering during its bloom period, June-August. Must be planted in full sun, in soils with excellent drainage. It is best in native or low-water zones and requires winter mulching to protect succulent foliage from temperature extremes. Not bothered by rabbits or squirrels. Plant 18 in. on center.

Euphorbia species



Spurge – These succulents are related to the poinsettia plant of Christmas fame. The two varieties mentioned are low growers, best suited to a rock garden or native area. They perform best when planted in full sun and well-drained soil with once-a-week irrigation. Not bothered by rabbits or squirrels.



Euphorbia myrsinites

E. myrsinites (Myrtle Spurge) – 4 in. tall by 12 in. wide; blue-green leaves; lime-green flowers in April. Plant 12 in. on center.

E. polychroma (Cushion Spurge) – 12 in. tall by 24 in. wide; dark green leaves; yellow flowers June-July. Plant 24 in. on center.



Festuca glauca 'Elijah Blue'

Festuca glauca



Blue Fescue – A blue-gray clump forming grass that grows up to 12 in. tall and 10 in. wide. Many times the leaves will lay down as it gets tall and form a lumpy, rolling kind of meadow grass look. It can be planted in groups or singly with no worry of it spreading. Grow in full sun to maintain color and well-drained soil, and water once a week. Requires division every two or three years to maintain vigor and color.

F. glauca 'Blaufink' (Blue Finch Fescue) – 6-8 in. tall and wide; compact variety.

F. glauca 'Elijah Blue' (Elijah Blue Fescue) – 8-10 in. tall and wide; best blue color.

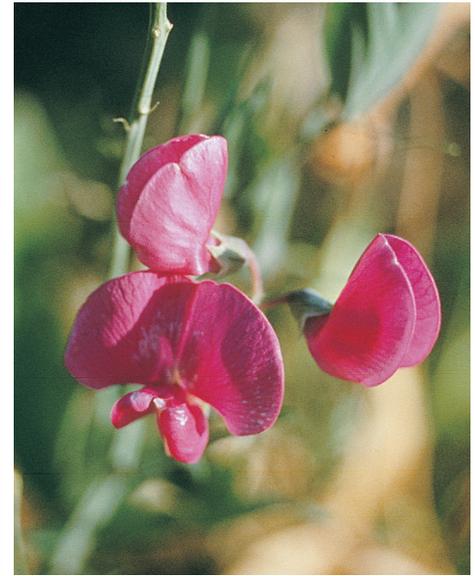
Helianthemum nummularium



Sunrose – Excellent drainage is a must for this plant to grow successfully. Sunrose will grow 6-12 in. tall and 24 in. wide when provided full sun, winter mulch, twice-a-week watering and an annual shearing. Flowers may be red, yellow, orange or pink, 1-2 in. in size June-July. Plant 24 in. on center.



Helianthemum nummularium



Lathyrus latifolia

Lathyrus latifolius



Perennial Sweet Pea – The perennial sweet pea is useful as a bank cover. It has gray-green foliage that grows up to 6 ft. in length. Pink flowers are produced July-August if it receives monthly feeding during blooming. Grow in full sun to light shade and well-drained soil, and water once or twice a week. This plant is not bothered by rabbits, squirrels or deer. Plant 4 ft. on center.

Lonicera species



Honeysuckle – The honeysuckle rambles across the ground. It is evergreen in mild winters, and bears showy flowers June-frost. Grow in full sun to partial shade (fewer flowers) and well-drained soil, and water once or twice a week. To reduce fire threat, keep the plant on the ground, rather than on a trellis or fence. Plant 6 ft. on center.



Lonicera heckrottii 'Gold Flame'

L. x heckrottii 'Gold Flame' – 2-15 ft. wide; dark green leaves; pretty pink or yellow flowers July-September.





Mahonia repens

Mahonia repens

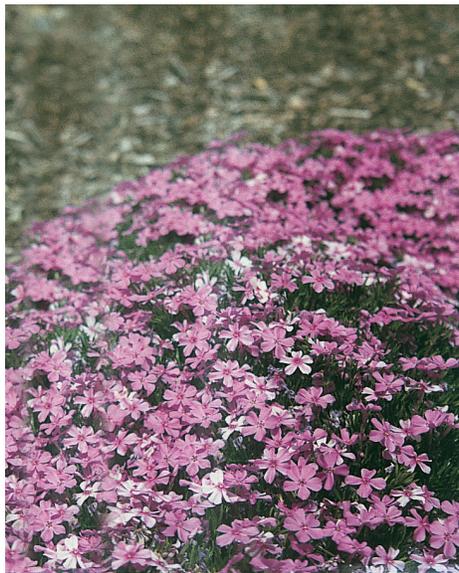


Creeping Mahonia – This evergreen sub-shrub creeps 1 ft. tall under trees and shrubs, thriving in a partly shaded environment. Its vigorous rooting habit makes it well suited for erosion control situations on banks or slopes. It bears bright yellow flowers in April that are followed by blue-black berries in July. Plant in part shade and well-drained soil, and water twice a week. Not bothered by rabbits, squirrels or deer. Plant 3 ft. on center.

Opuntia polyacantha



Prickly Pear Cactus – For some unknown reason, this cactus bears different colored flowers based on the region where it is located. For example, in California or southern Nevada, the flowers are most often yellow or peach colored. In northern Nevada and southern Idaho, usually the flowers are dark red to bright pink. Regardless of flower color, this plant must be handled with care when planting and placed away from high traffic areas. Grow in full sun and well-drained soil with sand or gravel added. Place in an area that is watered once every 14 days during the heat of summer only. Mature plant is 6-8 in. tall and about 12 in. wide, but roots readily where pieces happen to fall to the ground. This plant is not bothered by rabbits, squirrels or deer. Plant 18 in. on center.



Phlox subulata

Phlox subulata



Moss Pink – A low-growing evergreen perennial that has needle-like leaves that are slightly prickly to the touch. Flowers bloom early in spring, usually April, and may be white, pink, lavender or hot pink. The plant grows 2-6 in. tall and up to 24 in. wide when grown in full sun and well-drained soil, and watered twice a week. Plant 24 in. on center.



Opuntia polyacantha



Polygonum aubertii

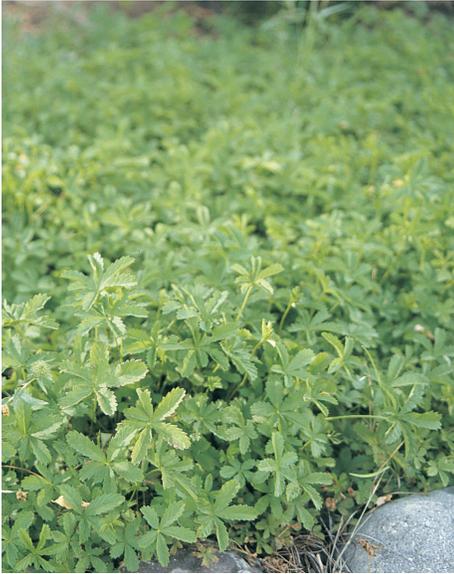
Polygonum species



Polygonum – Members of this genus are very tolerant of adverse conditions; a number of species are in fact weeds in most gardens. The ornamental members discussed here are very fast-growing and tolerate heat, drought, cold, wind and poor soils. They perform best in full sun, well-drained soil and areas that are watered once a week. Not bothered by rabbits, squirrels or deer. To reduce fire threat, keep the plant on the ground, rather than on a trellis or fence.

P. aubertii (Silver Lace Vine) – 20 ft. spread on fence or wall; white flowers in September. Plant 10 ft. on center.

P. Reynoutria (Japanese Knotweed) – 6 in. tall by 3 ft. wide; pink flowers in August. Plant 3 ft. on center.



Potentilla neummanniana

Potentilla neummanniana



Cinquefoil – This low-growing perennial forms a dense, dark green mat, a mere 2-6 in. tall. It bears bright yellow flowers May-August. It prefers shade in the late afternoon, well-drained soil, and regular watering twice a week. Plant 12 in. on center.

Sedum species



Stonecrop – The sedums that are used as ground covers can provide interesting textural variety in any garden. They need well-drained soil, full sun and water once or twice a week. Sedum is not bothered by rabbits, squirrels or deer. Plant 12 in. on center.

S. acre (Goldmoss Sedum) – 2 in. tall by 24 in. wide; yellow-green flowers in July.

S. kamtschaticum (Kamschat Sedum) – 4 in. tall by 10 in. wide; pink buds become yellow flowers July-August.

S. spurium (Two-row Stonecrop) – 6 in. tall by 18 in. wide; red flowers July-August.



Thymus polytrichus

Thymus species



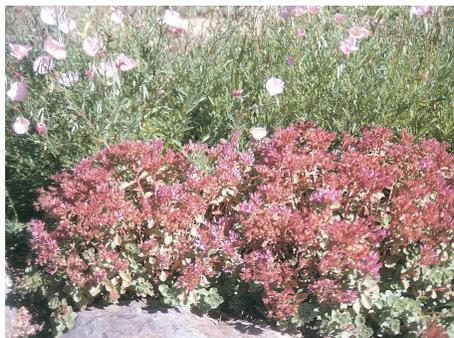
Thyme – Ground cover thyme forms a tight, dense mat suitable for areas with light traffic. It fills in quickly when given full sun, well-drained soil and water twice a week. Thyme is not bothered by rabbits, squirrels or deer. Plant 12 in. on center.

T. citriodorus (Lemon-scented Thyme) – 12 in. tall by 12 in. wide; lavender to pink flowers July-August.

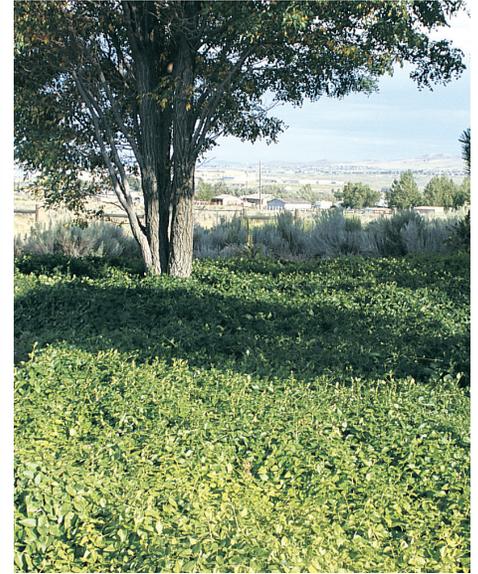
T. polytrichus (Creeping Thyme) – 2 in. tall by 24 in. wide; purple flowers June-July.

T. serpyllum (Mother-of-Thyme) – 6 in. tall by 12 in. wide; purple flowers June-July.

T. vulgaris (Common Thyme) – 6 in. tall by 16 in. wide; aromatic leaves; lilac to white flowers July-August.



Sedum spurium



Vinca minor

Vinca minor



Dwarf Periwinkle – This evergreen sub-shrub is somewhat vine-like, but it will not climb. It grows 4-8 in. tall and creeps on indefinitely. Periwinkle has been hybridized and now may have white, blue, violet or purple flowers June-September. It grows in full sun to full shade, any soil, and likes water once or twice a week. Useful under trees, on slopes, or as a ground cover in low-traffic areas. This plant is not bothered by rabbits, squirrels or deer. Plant 4 ft. on center.

Zauschneria californica



California Fuchsia – A mat-forming perennial that grows 1 ft. tall and up to 6 ft. wide. It has gray foliage that needs occasional shearing to encourage interior growth. Bright red tubular flowers bloom June-August. Grow in full sun and well-drained soil, and water once or twice a week.



Zauschneria californica

A vigorous root system makes this plant a good choice for sites on banks and hillsides. This plant is not bothered by rabbits, squirrels or deer.

Within 30 feet of the house, select deciduous shrubs that grow to a height of less than 2 feet.

Select shrubs that grow to a height of less than 2 feet at maturity or that can be maintained at this height through pruning. Use taller deciduous shrubs sparingly as specimens within 30 feet of the house. Or, use them more extensively outside this area.



Shrubs



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Amelanchier x grandiflora

Amelanchier species



Serviceberry or Juneberry – This plant is loved by the birds for its blue-purple berry that tastes similar to blueberries. It has a small white to pinkish flower in spring and lovely fall color. Best grown in full sun to light shade (good under taller trees) and well-drained soil, and watered deeply once a week. This plant is not bothered by rabbits, squirrels or deer.

A. alnifolia 'Saskatoon' – 2 ft. tall by 12 ft. wide; white flowers; blue berries.

A. a. 'Regent' – 4 ft. tall by 6 ft. wide; sweet berries good for jam or jelly.

A. x grandiflora – 25 ft. tall by 25 ft. wide; white flowers; blue-black berries; good fall color.



Atriplex canescens



Aronia arbutifolia

Aronia species



Chokeberry – Native to eastern United States and Canada, this shrub tolerates extreme cold, damp soils, heat, wind and drought. It has white flowers that have a pink tinge followed by bright red or black fruit, bitter to the taste (hence its name). This plant is not bothered by rabbits, squirrels or deer.

A. arbutifolia (Red Chokeberry) – 10 ft. tall by 6 ft. wide; red berries; vivid red fall color.

A. a. 'Brilliant' – 6 ft. tall by 6 ft. wide; has reddest fall color.

A. melanocarpa (Black Chokeberry) – 6 ft. tall by 10 ft. wide; black berries; red to purple fall color.

Atriplex canescens



Fourwing Saltbush – This Great Basin native can be found growing in the worst soils our area can offer. It has gray foliage and an almost lime-green flower structure that is showy in late summer. This plant is good forage for small mammals, and birds love the seeds. Saltbush grows 6 ft. tall by 4 ft. wide. It prefers full sun, dry well-drained soil and water once every two weeks (best used in a native area with very little irrigation).



Berberis thunbergii 'Crimson Pygmy'

Berberis species



Barberry – Many varieties of barberry are available locally, most of which have yellow flowers in spring and spines on their branches (unless otherwise noted). This shrub tolerates poor soils, heat, wind, drought and extreme cold. It looks best with occasional pruning of the interior branches to admit sunlight, or it gets so thick it looks dead in the middle. Looks best when grown in well-drained soils and full sun, and watered once a week.

B. thunbergii 'Crimson Pygmy' – remains dwarf at 1 ft. tall by 2 ft. wide; bright red leaves; needs full sun.

B. t. 'Kobold' – 1 ft. tall by 3 ft. wide; bright lime-green leaves; needs full sun.

Taller plants should be used sparingly within 30 ft. of the house:

B. t. (Japanese Barberry) – 4-6 ft. tall and wide; green leaves; red berries; barrier, hedge or specimen.

B. t. 'Atropurpurea' (Red-Leaf Barberry) – 4 ft. tall and wide; needs sun to maintain color.

B. t. 'Aurea' (Golden Barberry) – 3 ft. tall by 2 ft. wide; bright yellow foliage; needs full sun to maintain leaf color.

B. t. 'Rose Glow' – 5 ft. tall by 4 ft. wide; red, pink, and white in each leaf; full sun.



Buddleia davidii

Buddleia species



Butterfly Bush – The showy flowers on this shrub are much loved by its namesake, the butterfly. It prefers well-drained soil and a once-to-twice-weekly watering regime. The felt leaves are green on the top and gray underneath. Flowers appear June-July on last year's growth. Prune out the oldest wood to the ground. Flowers are 6-12 in. long in shades of blue, purple, lilac, pink, yellow and white.



Buddleia davidii

B. alternifolia (Fountain Buddleia) – 12 ft. tall by 8 ft. wide; fragrant lilac flowers (can train as a tree).

B. davidii (Summer Lilac) – 10 ft. tall by 8 ft. wide; fragrant; various colors.



Caragana arborescens

Caragana species



Peashrub – Native of Siberia, these shrubs tolerate extreme cold, wind, heat, drought and poor soils. Yellow sweet pea flowers appear in spring on last year's wood, and are followed by pea pods July-August. Use as windbreak, screen or hedge.

C. frutex 'Globosa' (Globe Peashrub) – A dwarf version that only grows 2 ft. tall by 2 ft. wide; light green leaves.

Taller plants should be used sparingly within 30 ft. of the house:

C. arborescens (Siberian Peashrub) – 15 ft. tall by 12 ft. wide; light green leaves.

C. a. 'Nana' (Dwarf Peashrub) – 6 ft. tall by 3 ft. wide; light green leaves.

C. pygmaea (Pygmy Peashrub) – 3 ft. tall by 3 ft. wide; spines, dark green leaves.

Caryopteris x clandonensis



Blue Mist Spiraea – This late-summer flowering shrub bears lovely blue flowers among its gray-green foliage. It grows 3 ft. tall by 3 ft. wide and flowers on this year's wood, so it needs to be pruned to the ground every winter. It reblooms if pruned right after the first bloom. Prefers well-drained soil with lots of humus or compost added, full sun, and once-a-week watering.



Chaenomeles speciosa

Chaenomeles speciosa



Flowering Quince – A large spiny shrub that provides edible fruits for birds, and large and small mammals. The parent species has brilliant scarlet-red flowers, but there are hybrid varieties in white, apricot, pink and orange shades as well. The flowers usually bloom in May or June, depending on variety. Grow in full sun and well-drained soil, and water once a week. This plant is not bothered by rabbits, squirrels or deer.



Caryopteris x clandonensis



Cotoneaster microphyllus

Cotoneaster species



Cotoneaster – A very diverse group of plants ranging from low ground covers to tall fountain-like shrubs, so make sure you get the proper variety to suit your needs. Performs best when planted in well-drained soils kept on the dry side, with once- to twice-a-week watering. Tiny white flowers in spring are followed by red or black berries in fall. Not bothered by rabbits, squirrels or deer.

C. dammeri ‘Lowfast’ (Bearberry Cotoneaster) – 1 ft. tall by 15 ft. wide; red berries; ground cover, on slopes, fast filler; evergreen.

Taller plants should be used sparingly within 30 ft. of the house:

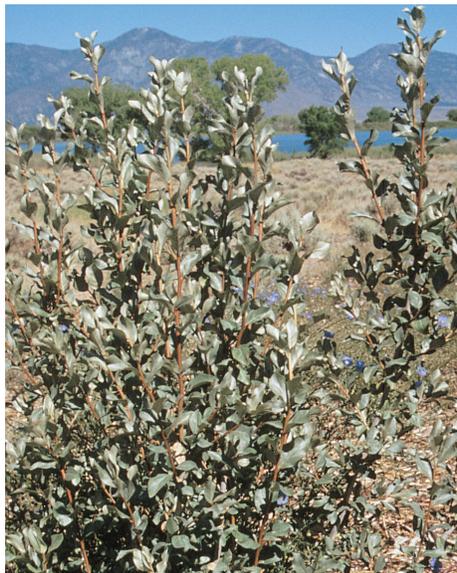
C. apiculatus (Cranberry Cotoneaster) – 3 ft. tall by 6 ft. wide; red berries in August; red fall color; on slopes; ground cover or hedge.

C. congestus (Pyrenees Cotoneaster) – 3 ft. tall by 3 ft. wide; red berries; evergreen.

C. horizontalis (Rock Cotoneaster) – 3 ft. tall by 15 ft. wide; red berries; orange-red fall color; on slopes; ground cover.

C. microphyllus (Rockspray Cotoneaster) – 3 ft. tall by 6 ft. wide; evergreen; red berries; dry slopes.

C. multiflorus (Mang-flowered Cotoneaster) – 10 ft. tall by 8 ft. wide; has showy flower, red fruit.



Elaeagnus commutata

Elaeagnus commutata



Silverberry – Native to the Canadian plains and Rocky Mountains, this shrub thrives on neglect. It is tolerant of cold, wind, heat, poor soil and drought. This large shrub grows 6-12 ft. tall and wide, and is a useful screen, hedge or windbreak. It has tiny yellow, fragrant flowers May-June, followed by dry silver berries loved by birds. Plant in full sun and any soil, and water once a week. This plant is not bothered by rabbits, squirrels or deer.



Elaeagnus commutata

C. salicifolius (Willowleaf Cotoneaster) – 15 ft. tall by 15 ft. wide; red fruit; evergreen.



Euonymus alatus

Euonymus species



Euonymus – These shrubs may be evergreen or deciduous in our area, depending on variety. Valued most for their foliage, as they have inconspicuous flowers, they are best used as a background, foundation or hedge plant. Plant in part shade and well-drained soil, and water once a week. Not bothered by rabbits, squirrels or deer.

E. fortunei (Wintercreeper) – 2 ft. tall by 6 ft. wide; evergreen; shrub or ground cover.

Taller plants should be used sparingly within 30 ft. of the house:

E. alatus (Burning Bush) – 10 ft. tall by 10 ft. wide; deciduous; foliage burns in hot, dry wind so plant in protected spot or part shade; red fall color; orange berries.

E. a. ‘Compacta’ – 4-6 ft. tall by 6 ft. wide; fall color; part shade.

E. fortunei ‘Emerald and Gold’ – 6 ft. tall by 6 ft. wide; green leaves with white edges.

E. japonicus (Japanese Euonymus) – 12 ft. tall by 6 ft. wide; evergreen; green or variegated leaves; cut flower filler.



Euonymus fortunei



Forestiera neomexicana

Forestiera neomexicana



New Mexico Privet – This native of the four corners region is tolerant of the worst conditions: cold, heat, poor soils, wind and drought. Growing 8 ft. tall by 8 ft. wide, it has medium green leaves similar to that of a privet and makes a good informal hedge or screen. Provide it with water once a week, full sun and any garden soil. Fire resistant when watered regularly. This plant is not bothered by rabbits, squirrels or deer when planted as a one gallon (or larger) size plant.



Forestiera neomexicana



Forsythia intermedia

Forsythia species



Forsythia – One of the first to bloom in the spring, its bright yellow flowers grow up the entire stem, at the end of winter. Best used in the back of a planter bed as a backdrop for more colorful summer bloomers. Can also be used as a screen or bank cover, or trained as an espalier. Best performance with full sun, annual fertilization and twice-a-week watering.

F. intermedia (Forsythia) – 7-10 ft. tall by 6-8 ft. wide; arching branches.

F. i. 'Arnold Dwarf' – 3 ft. tall by 6 ft. wide; fewer flowers than other varieties.

F. i. 'Beatrix Farrand' – 10 ft. tall by 7 ft. wide; yellow with orange flowers.

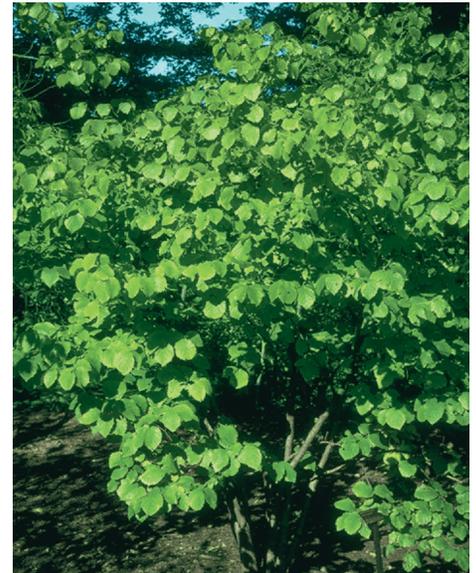
F. i. 'Lynwood' – 6 ft. tall by 6 ft. wide; man light yellow flowers.

F. i. 'Spring Glory' – 6 ft. tall by 6 ft. wide; light yellow flowers.

F. suspensa (*Weeping Forsythia*) – 8 ft. tall by 8 ft. wide; roots where stems touch damp soil.

F. viridissima (*Greenstem Forsythia*) – 10 ft. tall by 6 ft. wide; deep-green foliage.

F. v. 'Bronxensis' (*Dwarf Forsythia*) – 18 in. tall by 2 ft. wide; ground cover or edge of border.



Hamamelis intermedia

Hamamelis intermedia



Witch Hazel – This plant has three outstanding traits: it blooms in January when nothing else is usually blooming, it has very fragrant yellow flowers that can last three to four weeks, and it thrives in gravelly, poorly drained clay soil (present in much of our region). It grows 8 ft. tall by 8 ft. wide. It is a somewhat coarse-looking shrub that grows best in full sun or partial shade, with twice-a-week watering. The fall color is a coppery yellow. Use for background or screen plantings.

Hibiscus syriacus



Rose of Sharon – This plant can be grown as a large, multistemmed shrub or trained into a single-stem, small tree, 10-12 ft. tall.

It is very late to leaf out, sometimes as late as June.

It is useful as a hedge, screen or background plant. It tolerates full sun to

partial shade, clay soils, heat, wind and cold. The flowers bloom August-September, and are rose, lilac, white or a bluish-purple. This plant is not bothered by rabbits, squirrels or deer.



Hibiscus syriacus

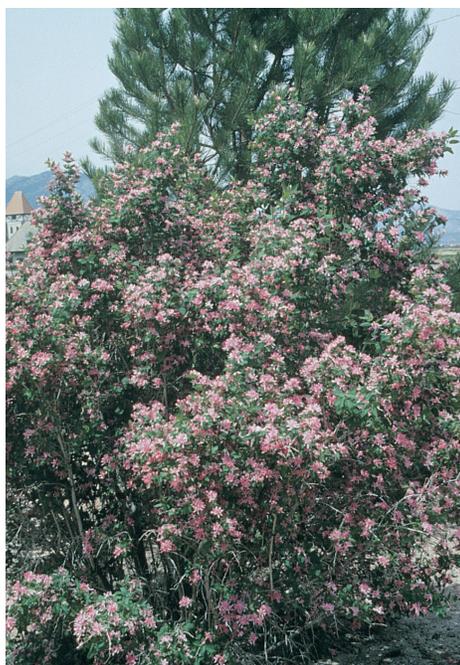


Kerria japonica

Kerria japonica



Kerria – This somewhat tropical-looking shrub prefers an east or north exposure. It has yellow or pale orange flowers that look like tiny roses. Kerria grows 6 ft. tall and 8 ft. wide. It prefers well-drained soil with humus or compost added, partial shade and twice-a-week watering.



Lonicera tatarica



Ligustrum 'Vicaryi'

Ligustrum species



Privet – These dense shrubs are best suited to use as a hedge or screen away from the house. They all produce white flowers that result in black berries. Plant in full sun to light shade in any soil, and water once a week. Not bothered by rabbits, squirrels or deer.

L. amurense (Amur Privet) – 15 ft. tall by 15 ft. wide; green leaves.

L. obtusifolium (Border Privet) – 10 ft. tall by 12 ft. wide; green leaves have purple tinge in fall.

L. x. vicaryi (Vicary Privet) – 10 ft. tall by 10 ft. wide; golden yellow leaves.

L. vulgare (Common Privet) – 10 ft. tall by 10 ft. wide; green leaves; clusters of black fruit.

L. v. 'Aureum' (Golden Privet) – 10 ft. tall by 10 ft. wide; golden yellow leaves.

Lonicera tatarica



Tatarian Honeysuckle – A large shrub that is best suited to the back of a border, or as a hedge or screen away from house. It grows up to 12 ft. tall and 8 ft. wide and produces red flowers in June. The variety 'Arnold Pink' has pink flowers, but is similar otherwise. The orange or red berries are relished by the birds in the fall. Place in full sun to light shade and well-drained soil, and water once a week. This plant is not bothered by rabbits, squirrels or deer.



Mahonia aquifolium

Mahonia aquifolium



Oregon Grape – This evergreen shrub has glossy, dark green, spiny-toothed leaves that become purplish in winter. It has bright yellow flowers in May, followed by blue-black berries that attract birds August-September. It matures to 4 ft. tall by 6 ft. wide. Grow in full sun to part shade and well-drained soil, and water one to two times per week. This plant is not bothered by rabbits, squirrels or deer.



Mahonia aquifolium



Philadelphus virginalis

Philadelphus virginalis



Mock Orange – This shrub is named for the orange blossom scent of its flowers. Most varieties of this species have showy double white flowers that bloom May-June. When in bloom, the display is noteworthy, but this shrub is somewhat open and unappealing out of bloom, so use it as a background plant. It tolerates many soils, full sun to light shade, heat, wind and cold. Prune every other year to keep the center open and enhance bloom. It grows 6-8 ft. tall and 4 ft. wide. Not bothered by rabbits, squirrels or deer.



Philadelphus virginalis

P. v. ‘Minnesota Snowflake’ – 6 ft. tall by 6 ft. wide.

P. v. ‘Glacier’ – 4 ft. tall by 4 ft. wide.

P. v. ‘Dwarf Minnesota Snowflake’ – 3 ft. tall by 3 ft wide.



Potentilla fruticosa

Potentilla fruticosa



Shrubby Potentilla – This shrub is a reliable performer, flowering July-September. Tolerant of poor dry soils, cold, wind and heat, it is a worthy addition to any landscape. Useful for edging, massing, or flower borders, or as a foundation plant. Plant in full sun, well-drained soil, and a watering zone that gets irrigated one or two times per week. Not bothered by rabbits, squirrels or deer.

P. fruticosa ‘Daydawn’ – 2 ft. tall by 2 ft. wide; peach and white flowers.

P. f. ‘Gold Drop’ – 2 ft. tall by 3 ft. wide; yellow flowers.

P. f. ‘Goldfinger’ – 2 ft. tall by 2 ft. wide; yellow flowers.

P. f. ‘Hollandia Gold’ – 2 ft. tall by 2 ft. wide; gray-green leaves; golden yellow flowers.

P. f. ‘Klondike’ – 2 ft. tall by 2 ft. wide; yellow flowers.

P. f. ‘Red Ace’ – 2 ft. tall by 3 ft. wide; red flowers.

P. f. ‘Sutters Gold’ – 1 ft. tall by 3 ft. wide; yellow flowers.

P. f. ‘Tangerine’ – 2½/ 2 ft. tall by 3 ft. wide; yellow-orange flowers.



Prunus besseyi

Prunus species



Bush Cherry – This group of plants is related to the fruit-bearing plums and cherries. They all bloom May-June, and produce edible fruit favored by critters, both walking and winged. Grow in full sun and well-drained soil, and water one to two times per week. Not bothered by rabbits, squirrels or deer.



Prunus virginiana

P. besseyi (Sand Cherry) – 5 ft. tall by 5 ft. wide; green leaves; white flowers; sweet black cherries.

P. cistena (Purple-leaf Sand Cherry) – 5 ft. tall by 5 ft. wide; purple leaves; pink flowers.

P. tomentosa (Nanking Cherry) – 10 ft. tall by 10 ft. wide; green leaves; fragrant white flowers; red fruit.

P. virginiana (Chokecherry) – 25 ft. tall by 15 ft. wide; green leaves; white flowers; black fruit.



Pyracantha coccinea

Pyracantha coccinea



Firethorn or Pyracantha – This dense, thorny shrub is a great candidate for use as a hedge, screen or barrier planting. It has creamy, white flowers in May or June, and produces heavy crops of orange-red berries September-October. It needs a site with full sun to part shade, well-drained soil, once-a-week watering and winter mulch to protect roots from extreme cold. Flowers and fruits on last year's wood. This variety grows 8-10 ft. tall by 8 ft. wide. Not bothered by rabbits, squirrels or deer.

P. c. 'Lalandei' – 8 ft. tall by 8 ft. wide; orange berries.

P. c. 'Lowboy' – 4 ft. tall by 4 ft. wide; orange berries; low and spreading.



Pyracantha coccinea



Rhus typhina

Rhus species



Sumac – This group of plants are known for their drought tolerance and ability to thrive in poor soils (except soggy). The suckering tendency of their roots makes them very useful on slopes. All varieties have dark green foliage that turns bright red in fall. Plant in full sun to partial shade and well-drained soil, and water once a week.

R. aromatica 'Low Grow' (Fragrant Sumac 'Low Grow') – 2 ft. tall by 5 ft. wide; yellow flowers; useful on slopes and for erosion control.

Taller plants should be used sparingly within 30 ft. of the house:

R. aromatica (Fragrant Sumac) – 5 ft. by 8 ft.; leaves fragrant when crushed; yellow flowers.

R. glabra (Smooth Sumac) – 10 ft. tall by 8 ft. wide; red fruit in fall.

R. g. 'Laciniata' – 4 ft. tall by 4 ft. wide; fern-like leaves.

R. trilobata (Skunkbush) – 4 ft. tall by 6 ft. wide; leaves have skunk-like odor when bruised; yellow flowers.

R. typhina (Staghorn Sumac) – 20 ft. tall by 20 ft. wide; branches have a felty feel; red fruit in fall.



Ribes aureum

Ribes aureum



Golden Currant – Native to Nevada, this shrub grows 4-6 ft. tall and has small yellow flowers in spring. The golden berry is edible, but you'll have to beat the birds to taste it. Good planted under shade trees, it is very useful in low-water zones of the yard. Plant in full to partial sun, well-drained soil and a once-a-week watering zone. This plant is not bothered by rabbits, squirrels or deer.



Ribes aureum



Rhus trilobata



Rosa harisonii

Rosa species



Hardy Shrub Roses – The only group of roses discussed in this guide are those classified as hardy shrub roses. A hardy shrub rose is very cold-tolerant, requires no annual pruning and only needs feeding in spring. These include some of the oldest roses known to the West, as well as some of the newest varieties now sold commercially. Plant in well-drained soil with added compost and full sun, and irrigate twice a week.

R. foetida ‘Bicolor’ (Austrian Copper Rose) – 5 ft. tall by 5 ft. wide; orange-yellow flowers on same plant May-June; loves heat; good in dry zones.

R. harisonii (Harison’s Yellow) – 6-8 ft. tall by 6-8 ft. wide; yellow flowers May-June; blooms in fall if sheared after spring bloom; good against fence or wall; came west with pioneers.



Rosa foetida ‘Bicolor’

R. rugosa (Sea Tomato) – 3-8 ft. tall and wide; flowers single or double, white, dark red or yellow; good as hedge; vigorous.

R. spinosissima (Scotch Rose) – 3-4 ft. tall, width varies; white or pink flowers May-June; suckering roots spread vigorously; good as bank cover.

R. ‘Meidiland’ – 12 in. to 10 ft. tall, width varies; white, pink, coral, red or ivory flowers; use as ground cover, hedge, background, or bank cover.

R. woodsii (Wood’s Rose) – 6 ft. tall by 6 ft. wide; pink flowers, red rosehips; low-water zones; native to the West.



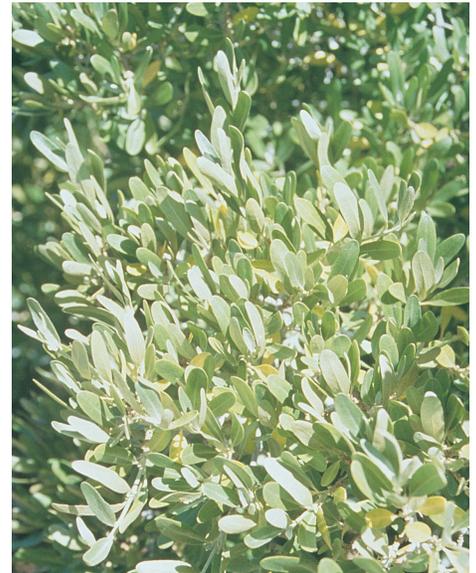
Rosa rugosa hybrid



Rosa woodsii



Rosa harisonii



Shepherdia argentea

Shepherdia argentea



Silver Buffaloberry – Native to the West, this shrub tolerates cold, heat, drought, poor soils and wind. It has insignificant flowers that produce red-orange berries in fall, loved by birds, tart in flavor, but good in jam. Best suited to low-water or native zones, because its spiny branches are not friendly to garden around. Plant in full sun, well-drained soil and a watering zone that receives water once a week. This plant grows 6 ft. tall by 6 ft. wide. Not bothered by rabbits, squirrels or deer.



Spiraea japonica 'Little Princess'

Spiraea species



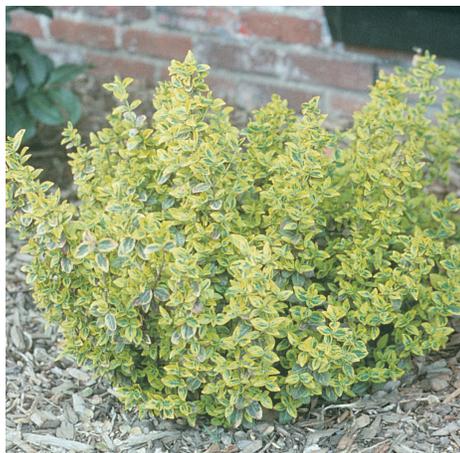
Spiraea – Spiraea are deciduous shrubs that adapt well to many garden locations, from full sun to partial shade. All prefer well-drained soil, watering once or twice a week and annual pruning after flowering. Not bothered by rabbits, squirrels or deer.

S. x bumalda (Spiraea) – All varieties of bumalda are 2-4 ft. tall by 4-8 ft. wide; bronze young leaves; dark pink flowers.

S. japonica 'Alpina' – 2 ft. tall by 3 ft. wide; pink flowers in summer.

S. j. 'Little Princess' – 20 in. tall by 3 ft. wide; rose-red flowers.

Taller plants should be used sparingly within 30 ft. of the house:



Spiraea bumalda 'Limemound'

S. bumalda 'Anthony Waterer' – Maroon tinged leaves; dark pink flowers.

S. b. 'Crispa' – Twisted, serrated leaves; pink flowers June-July.

S. b. 'Froebelii' – Taller (3-4 ft.); rose-red flowers.

S. b. 'Goldflame' – Bronze-red young leaves, turning bright yellow, then mid-green, then orange, red and yellow in fall; dark pink flowers.

S. b. 'Limemound' – Very dwarf; lime-green foliage; pink flowers; orange-red fall color.

S. japonica (Japanese Spiraea) – 4 ft. tall by 4 ft. wide; pinkish red flowers.

S. j. 'Shirohana' – 3 ft. tall by 3 ft. wide; white, pink and red flowers on same plant.

S. x vanhouttei – 8 ft. tall by 10 ft. wide; large fountain-like branches that curve to the ground; white flowers April-May.



Spiraea x vanhouttei



Symphoricarpos albus

Symphoricarpos albus



Snowberry – Snowberry grows 3-6 ft. tall by 3-6 ft. wide. It has white flowers in June that become white berries in fall and last into winter. Tolerant of heat, cold, wind, drought and poor soil. Plant in full sun to partial shade and well-drained soil, and water once a week. This plant is not bothered by rabbits, squirrels or deer.

Syringa vulgaris



Common Lilac – This is an old garden favorite prized for its light purple flowers that appear in May. It is a large, coarse shrub when out of flower, so consider using it in the back of a border, or as a hedge or screen. Grow in full sun and well-drained soil with compost added, and apply water once or twice a week. Prune after flowering in spring. Lilac grows 10 ft. tall by 10 ft. wide. This plant is not bothered by rabbits, squirrels or deer.



Syringa vulgaris



Viburnum trilobum

Viburnum species



Viburnum – This group of shrubs have showy flowers, many of which are also fragrant. The flowers are followed by clusters of berries that may be yellow, orange, red, blue or black. Grow in full sun to partial shade, in well-drained soil that is amended with organic matter. Apply water twice a week and fertilize in spring. Useful in a shrub border or as a screen. Not bothered by rabbits, squirrels or deer.

V. burkwoodii – 8 ft. tall by 6 ft. wide; dark green leaves; pink flower buds opening white, fragrant April-May, turning into red berries that change to black July-August; some red fall color.

V. carlesii (Korean Spice) – 4 ft. tall by 4 ft. wide; pink, white flowers April-May; outstanding fragrance attracts bees; maroon fall color.

V. dentatum (Arrowwood Viburnum) – 6 ft. tall by 6 ft. wide; multistemmed; white flowers; blue-black fruit; yellow-red fall color.

V. lantana (Wayfaring Viburnum) – 10 ft. tall by 10 ft. wide; white flowers in May (no scent); yellow fruit changes to black in August.

V. lentago (Nannyberry Viburnum) – 15 ft. tall by 12 ft. wide; white flowers in May (no scent); fruit many colors; red-purple fall colors.

V. opulus (European Cranberry Bush) – 10 ft. tall by 10 ft. wide; white flowers in May; red berries in September; some reddish fall color.

V. o. 'Roseum' (Snowball Bush) – 12 ft. tall by 12 ft. wide; white flowers 2-3 inches in size; sterile, with no berries.

V. prunifolium (Blackhaw) – 12 ft. tall by 12 ft. wide; 4-in. ivory flowers in May; pink berries turning black in September.

V. trilobum (American Cranberry Bush) – 12 ft. tall by 12 ft. wide; white flowers; edible red fruit; yellow-red fall color.



Viburnum burkwoodii



Yucca glauca

Yucca species



Yucca – An evergreen stemless shrub with sharp, sword-shaped leaves. White to ivory flower spikes up to 6 ft. tall. Grows best in well-drained soil and full sun, with once-a-week watering. Not bothered by rabbits, squirrels or deer.

Y. filamentosa (Adams Needle) – 2 ft. tall by 4 ft. wide; yellowish flower grows to height of 2-6 ft. in July.

Y. flaccida (Thread Yucca) – 2 ft. tall by 4 ft. wide; loose strings hang off leaves; white flowers in July grow to height of 7 ft. or more, with light fragrance at night; very hardy.

Y. glauca (Small Soapweed) – 2 ft. tall by 4 ft. wide; greenish-white flowers grow to height of 5 ft. tall in July.

Y. whipplei (Our Lord's Candle) – 2 ft. tall by 4 ft. wide; gray-green leaves with sharp tips; creamy white flowers grow to height of 12 ft. in summer; may take many years to flower.

Select deciduous trees within 30 feet of the house.

Placement of trees is important. Trees should be planted so that there will be at least a 10-foot separation between canopies at maturity. The tree canopy of mature trees should not be within 10 feet of the house. Do not use evergreen trees within 30 feet of the house.



Trees



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Acer ginnala

Acer ginnala



Amur Maple – This drought-tolerant member of the maple family may become a small tree or large shrub, topping out at 25 ft. tall. It has small, light green leaves that turn shades of red in fall. Grow in full sun to full shade and well-drained soil, and water deeply once every 10 to 14 days to prevent surface rooting.

Aesculus hippocastanum



Common Horsechestnut – This dense shade tree produces a spring flower display of 12-in. clusters of ivory blooms (loved by hummingbirds) April-May. It grows 50 ft. tall and 40 ft. wide at maturity. Provide deep watering (18-24 in.) every seven to 10 days in summer. If planted in a lawn and watered on the same schedule, the roots will surface and can break concrete. Deep, infrequent watering is a must!



Aesculus hippocastanum



Carpinus betulus 'Fastigiata'

Carpinus betulus



Hornbeam – A well-behaved shade tree that grows to 40 ft. at maturity. It has dark green leaves that turn yellow or red in the fall. The variety 'Fastigiata' is columnar and used to create large-scale screens or hedges when pruned. Needs to be planted in full sun to partial shade and well-drained soil that has organic matter added. Water once every seven to 10 days.



Carpinus betulus Photo ©2005 Dr. Amadej Trnkoczy



Catalpa bignonioides 'Nana'

Catalpa species



Catalpa – Huge tropical leaves (6-12 in.) provide good shade and a backdrop for white flower clusters in July. Tolerant of heat, cold, drought and poor soils. Leaves may tatter if planted on exposed sites in high-wind areas. Very drought-tolerant when it receives deep, occasional watering approximately once every two weeks.

C. bignonioides 'Nana' (Umbrella Catalpa) – A dense globe that tops out at 20 ft. tall and does not flower; good in small spaces, formal plantings, under power lines or in a street right of way.



Catalpa speciosa, fall color

C. speciosa (Western Catalpa) – 60 ft. tall by 40 ft. wide; white flowers in July; long bean-like seed pods create litter.



Celtis occidentalis

Celtis occidentalis



Hackberry – A relative of the elm, this tree grows 50 ft. tall by 50 ft. wide. It roots deep and can adapt well to confined planters when watered correctly. Tolerates heat, wind, drought, poor soil and air pollution. Best planted when young; seems to adapt more quickly. Plant in full sun and well-drained soil, and water deeply once every 10 to 14 days.

Cotinus coggygia



Smoke Tree – A small tree or large shrub reaching about 25 ft. tall at maturity. The name is derived from the pink clusters of flowers that sit atop the leaves like puffs of smoke. This variety has medium green leaves that turn orange-red to yellow in the fall. The variety 'Royal Purple' has maroon leaves that change to dark purple in fall when planted in full sun. Grow in well-drained soil and full sun to partial shade, and water deeply once every seven to 10 days.



Cotinus coggygia



Crataegus lavallei

Crataegus species



Hawthorn – Hawthorn trees are a maintenance nightmare for anyone trying to maintain a structured tree. They are dense, twiggy and usually very thorny. One of their best uses, given these tendencies, is as a hedge, screen or barrier planting. All bloom April-May and produce clusters of fruit in the fall.

All are prone to pests (scale, borers and spider mites) and fire blight. Plant in full sun and well-drained soil, and water deeply once every 10 to 14 days.



Crataegus laevigata
'Paul's Scarlet'

C. crus-galli (Cockspur Hawthorn) – 35 ft. tall by 25 ft. wide; white flowers in May; red fruit; orange-red fall color.

C. laevigata 'Paul's Scarlet' – 20 ft. tall by 20 ft. wide; double red flowers in May; scarlet fruit.

C. lavallei (Lavalle Hawthorn) – 20 ft. tall by 20 ft. wide; white flowers in May; red fruit; bronze-red fall color.

C. mollis (Downy Hawthorn) – 30 ft. tall by 30 ft. wide; white flowers in May; red fall color.



Fraxinus pennsylvanica

Fraxinus species



Ash – A vigorous, rapid-growing tree tolerant of heat, drought, poor soils, cold and wind. Prune annually for the first few years to create strong branching structure. Beneficial to spray with a dormant oil every winter to kill overwintering insects if you had any problems during the year. Best when planted in full sun and well-drained soil and watered deeply once every seven to 10 days.

F. americana 'Autumn Purple' (Autumn Purple Ash) – 80 ft. tall by 40 ft. wide; purplish-red fall color.

F. pennsylvanica (Green Ash) – 60 ft. tall by 40 ft. wide; yellow fall color.

Ginkgo biloba



Maidenhair Tree – Geologic fossil records date ginkgo trees back to the Jurassic period. It is one of the ultimate no-maintenance trees, requiring little, if any, pruning during its lifetime. The ginkgo grows to 100 ft. tall and about 25 ft. wide, so it is well-suited to street tree planting and small yards. It has bright yellow fall color, grows in any well-drained soil and needs deep watering once every seven to 10 days.



Ginkgo biloba



Gleditsia triacanthos inermis

Gleditsia triacanthos inermis



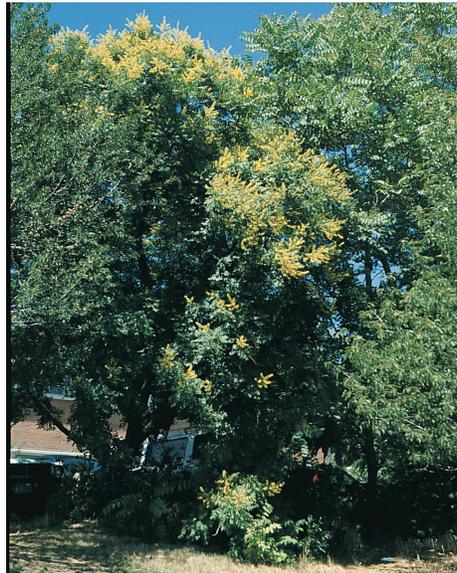
Honeylocust – The thornless honeylocust and its varieties are tolerant of poor soils, heat, drought, wind and cold. They have small, fine-textured leaves that provide light shade in summer and blow away easily in fall. Unfortunately, they suffer from attack by a number of insect pests, of which borers and pod gall midge have no chemical control. Grow in any soil in full sun to partial shade, and water deeply once every 10 to 14 days.

G. t.i. 'Imperial' (Imperial Honeylocust) – 30 ft. tall by 30 ft. wide; no fall color.

G. t.i. 'Rubylace' (Rubylace Honeylocust) – 30 ft. tall by 30 ft. wide; new growth red; prone to wind damage.

G. t.i. 'Shademaster' (Shademaster Honeylocust) – 50 ft. tall by 40 ft. wide; denser shade than most; not under utility lines.

G. t.i. 'Sunburst' (Sunburst Honeylocust) – 30 ft. tall by 30 ft. wide; golden-yellow foliage; prone to wind damage.



Koelreuteria paniculata

Koelreuteria paniculata



Golden Rain Tree – This tree has showy yellow flowers up to 12 in. long that sit above the leaves June-July. It grows 30 ft. tall and equally as wide when located in full sun and any well-drained soil. Irrigate this tree once every seven to 10 days.

Laburnum watereri



Golden Chain Tree – Laburnum may grow to 25 ft. tall and about as wide, but usually in our area it is only about 20 ft. tall by 10 ft. wide.

It is grown for its bright yellow flowers that bloom in May (if the frost doesn't get them). The flowers cascade down from the branches in 20-in.-long clusters and are quite showy.



Laburnum watereri

Note that the seed pods are poisonous, and this tree should not be planted in a yard with young children or curious pets. Plant in full sun and well-drained soil. Protect from the wind, and water deeply once a week.



Liquidambar styraciflua

Liquidambar styraciflua



Sweetgum – This stately tree is planted for its brilliant fall color, which ranges from red to orange to purple. It grows 80 ft. tall by 40 ft. wide when provided well-drained soil amended with bark humus. Although it has inconspicuous flowers, it has very conspicuous fruit. They are hard, spiny balls that ruin lawnmowers, but are very useful in dried flower arranging. Plant in full sun to partial shade and well-drained soil, and water deeply every seven to 10 days.



Liquidambar styraciflua

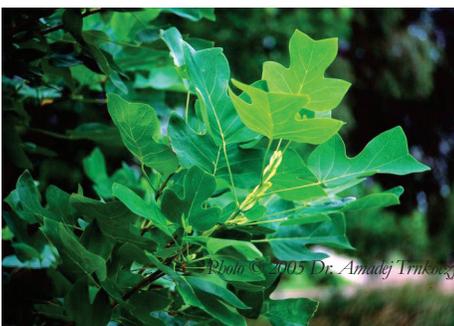


Liriodendron tulipifera Photo © 2005 Dr. Amadej Trnkoczy

Liriodendron tulipifera



Tulip Tree – This is a long-lived shade tree that grows 100 ft. tall by about 50 ft. wide. It has unusual-shaped leaves and flowers that resemble yellow tulips in June. Best when provided plenty of room, full sun, well-drained soil and deep watering once a week during the hot months. If planted within a lawn, you must keep the turf away from its trunk and water deeply and independently of the turf to keep the large roots from surfacing.



Liriodendron tulipifera



Maackia amurensis

Maackia amurensis



Maackia – This tree is grown for its copper-colored peeling bark and creamy clusters of flowers. The flowers bloom in July or August, which are followed by oblong brown seed pods in September or October. This hardy tree is 50 ft. tall and 30 ft. wide at maturity. Plant in full sun and well-drained soil amended with compost, and water deeply once every two weeks.

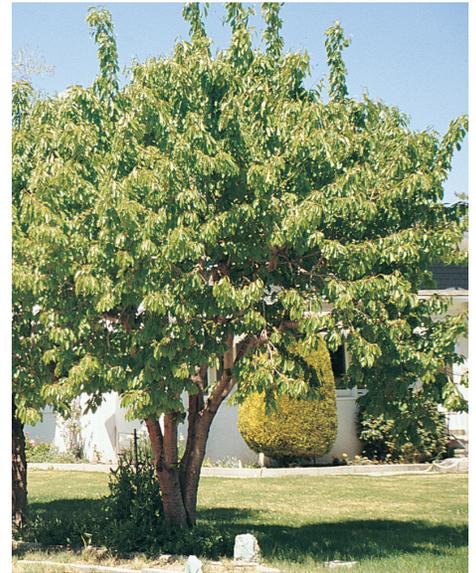
Maclura pomifera



Osage Orange – This tree has stout thorns that make it a good candidate for windbreak, screen or barrier plantings. It is fast-growing, tolerant of heat, drought, wind, cold and severe pruning. Although the flowers are inconspicuous, females produce 5-in., yellow-green wrinkled “oranges.” Grow in full sun and well-drained soil, and apply water deeply once every 10 to 14 days.



Maclura pomifera



Malus domestica

Malus domestica



Fruiting Apple Tree – There are many abandoned homesteads in Nevada where apple trees planted years ago still survive. They receive no regular irrigation, no pruning, spraying or fertilizer, and yet they endure. That is a tree with an extreme tolerance for abuse. There are hundreds of varieties of apples available. Contact University of Nevada, Reno Extension for more information on varieties. In general, apple trees are 6-25 ft. tall, with similar width. Grow in full sun and well-drained soil, and water deeply once per week during fruit set. Some annual pruning is required to encourage strong branching and fruit set, and some annual spraying may also be necessary. This tree is a valuable food source for birds, squirrels, rabbits and deer.



Malus 'Prof. Sprenger'

Malus hybrids



Crabapple – There are 400-600 varieties of crabapples being grown across the country today. They provide a reliable display of flowers in the spring and the fruits can be quite showy well into winter. Flowers may be shades of red, pink or white, usually in April or May. Foliage may be green or purple, and many varieties offer nice fall color. Fruits vary from 1/8 in. to 2 in., and may be yellow, red or orange in color. Choose a variety resistant to fireblight and scab to reduce your potential for annual maintenance. Light pruning for shape is recommended when young. Grow in full sun and well-drained soil, and water deeply once every 10 to 14 days. This plant is a valuable food source for birds, squirrels, rabbits and deer.

M. 'Candied Apple' – 15 ft. tall by 15 ft. wide; green leaves; purple-pink flowers; 1/2-in. red fruit.

M. 'Indian Summer' – 20 ft. tall by 20 ft. wide; bronze-green leaves; rose-red flowers; 5/8-in. red fruit.

M. 'Pink Princess' – 8 ft. tall by 12 ft. wide; leaves purple turning green; pink flowers; 1/4-in. red fruit.

M. 'Prairifire' – 20 ft. tall by 20 ft. wide; red leaves; pink-red flowers; 1/2-in. red fruit.

M. 'Prof. Sprenger' – 20 ft. tall by 20 ft. wide; green leaves; white flowers; 1/2-in. orange-red fruit.

M. 'Robinson' – 25 ft. tall by 25 ft. wide; leaves red turning green; deep pink flowers; 3/8-in. dark red fruit; persistent.

M. 'White Cascade' – 15 ft. tall by 15 ft. wide; weeping; green leaves; white flowers; 3/8-in. yellow fruit.

M. sargentii – 10 ft. tall by 15 ft. wide; green leaves; white fragrant flowers; 1/4-in. red fruit; dark.

M. zumi 'Calocarpa' – 20 ft. tall by 24 ft. wide; green leaves; pink fragrant flowers; 3/8-in. red fruit.



Malus 'Hopa'



Morus alba

Morus alba



Mulberry – This fruit tree produces loads of white, pink or purple berries that taste like blackberries in July. Don't plant near decks, concrete or parking areas due to the mess the birds and berries can cause. It tolerates heat, drought, wind, cold and air pollution. Best when planted in full sun and well-drained soil and watered deeply once every seven to 10 days.

Phellodendron amurense



Amur Corktree – A wide-spreading (50 ft.) tree with dark green, aromatic foliage that turns yellow in fall. It has attractive gray, corky bark as it ages. The flowers are insignificant, but female trees bear 1/2-in. black fruits in October. Grow in full sun in well-drained soil, and water deeply once every seven to 10 days.



Phellodendron amurense



Platanus acerifolia

Platanus acerifolia



London Plane Tree – This stately, 100-ft.-tall tree makes as striking a statement in winter with its white, patchy bark, as it does in spring fully leafed out. It has dark green leaves that are somewhat felty to the touch. The fruits may be a problem when the tree is planted near turf or walkways. The 1-in. spiny, dry globes wreak havoc on a lawn mower. Best when planted 25-30 ft. from concrete so large anchor roots don't crack concrete or pipes. Needs full sun, well-drained soil and deep watering once every 10 to 14 days.



Prunus padus



Prunus cerasifera 'Atropurpurea'

Prunus species



Plum or Cherry – This genus has over 400 species and countless more hybrids, but only the hardiest varieties will be discussed here. Note that though these trees will tolerate heat, cold, drought and wind, they are very susceptible to pests and disease. Most require annual spraying in winter and summer to reduce insect populations. Annual pruning for the first few years to remove sucker growth and to encourage strong branching is a must. (This may be required indefinitely depending on variety.) Grow in full sun and well-drained soil, and water deeply once every seven to 10 days. These trees are a valuable food source for birds, rabbits, squirrels and deer.

P. cerasifera 'Atropurpurea' (Purpleleaf Plum) – 20-30 ft. tall by 15-25 ft. wide; purple leaves; pink flowers; purple fruit.

P. domestica (Fruiting Plum) – 20 ft. tall by 20 ft. wide; pink flowers; red, yellow or purple fruit.

P. maackii (Amur Chokecherry) – 30 ft. tall by 20 ft. wide; fragrant white flowers; 1/4-in. black fruit.

P. padus (Bird Cherry) – 30 ft. tall by 30 ft. wide; fragrant white flowers; 3/8-in. black fruit; red fall color.

P. sargentii (Sargent Cherry) – 40 ft. tall by 40 ft. wide; pink flowers; 1/4-in. maroon fruit; red fall color.



Pyrus calleryana

Pyrus species



Pear – Both fruiting and nonfruiting pears have proven themselves worthy of consideration for this area. They are tolerant of cold, wind, heat, drought and poor soils. Plant in full sun and well-drained soil, and water once every seven to 10 days.

P. calleryana (Flowering Pear) – 40 ft. tall by 30 ft. wide; white flowers in May; red, orange and yellow fall colors.

P. communis (Fruiting Pear) – 15-30 ft. tall by 15-30 ft. wide; white flowers; edible fruits August-October; fall color depends on variety.



Pyrus communis





Quercus palustris

Quercus species



Oak – Oaks are generally very tall-growing trees (50-75 ft.) of varying widths, so they require adequate room to develop and should not be considered for a small yard. They are tolerant of heat, wind, cold and drought. Plant in full sun and well-drained soil, and water deeply once every 10 to 14 days. Do not overwater oaks, as they are prone to root rot in wet soils. These trees are a valuable food source for rabbits and squirrels.

Q. acutissima (Sawtooth Oak) – 40 ft. tall by 30 ft. wide; linear leaf with serrated edges; no fall color.

Q. alba (White Oak) – 75 ft. tall by 75 ft. wide; dark green leaves turning red-purple in fall.

Q. bicolor (Swamp White Oak) – 50 ft. tall by 50 ft. wide; tolerates wet soil; yellow, brown and red fall colors.

Q. douglasii (Blue Oak) – 50 ft. tall by 50 ft. wide; blue-green leaves turn pink, orange, yellow in fall.



Quercus macrocarpa



Quercus robur 'Fastigiata'

Q. lobata (Valley Oak) – 75 ft. tall by 75 ft. wide; 4-in. green leaves; no fall color.

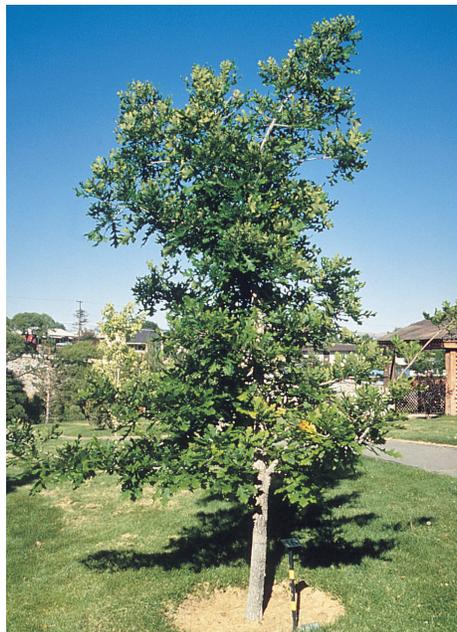
Q. macrocarpa (Bur Oak) – 60 ft. tall by 30 ft. wide; 8-in. green leaves; no fall color.

Q. palustris (Pin Oak) – 75 ft. tall by 40 ft. wide; pyramid shape; no fall color; needs acid fertilizer.

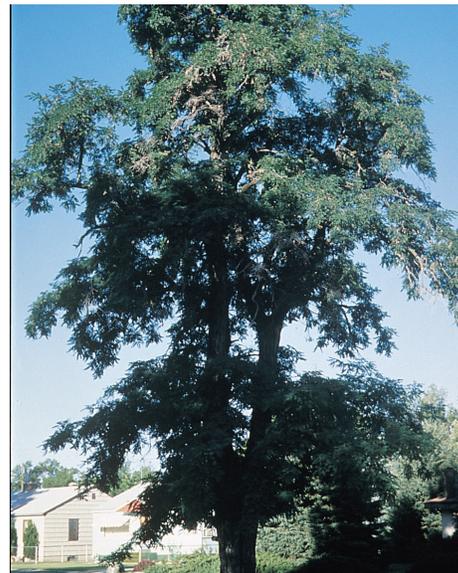
Q. robur (English Oak) – 100 ft. tall by 75 ft. wide; dark green leaves; no fall color.

Q. robur 'Fastigiata' (Columnar English Oak) – 75 ft. tall by 25 ft. wide; good substitute for Lombardy Poplar.

Q. rubra (Red Oak) – 75 ft. tall by 50 ft. wide; shiny green leaves; red fall color.



Quercus macrocarpa



Robinia pseudoacacia

Robinia species



Locust – A tree best grown in dry or native zones, and watered deeply and infrequently. When watered regularly, it develops large amounts of dense, weak, thorny branches, which tend to break easily in high winds or heavy snow. Best when planted in full sun and dry, well-drained soil, and watered deeply once every 14 days.

R. ambigua 'Idahoensis' (Idaho Locust) – 40 ft. tall by 30 ft. wide; pink flowers in June; litter.

R. pseudoacacia (Black Locust) – up to 75 ft. tall by 40 ft. wide; fragrant white flowers in June; litter.

R. p. 'Frisia' (*Frisia Locust*) – 40 ft. tall by 25 ft. wide; yellow foliage; new wood red, orange, yellow in fall; thorns.

R. p. 'Umbraculifera' (*Globe Locust*) – 20 ft. tall by 20 ft. wide; no flowers; round formal shape; dense.



Full Sun



Part Shade



Low-Growing



Moderate
(twice a week)



Low
(once a week)



Very Low
(7-14 days)



Deep Water
(7-10 days)



Deep Water
(10-14 days)



Extra Maintenance



Temperature Sensitive



Robinia ambigua 'Idahoensis'



Robinia ambigua 'Idahoensis'

Sophora japonica



Japanese Pagoda Tree – A fine-textured tree that grows 50 ft. tall and equally as wide. Long, drooping clusters of fragrant ivory flowers in August are followed by brown pods that hang on into winter. Glossy, dark green leaves turn yellow in fall. Good choice for planting within a lawn. Best in full sun to part shade and well-drained soil. Water deeply once a week.



Sophora japonica



Sorbus aucuparia

Sorbus species



Mountain Ash – This is a good tree for smaller yards or street planting, as it is successful when planted in turf. It has handsome, dark green leaves that turn yellow, red or orange in fall. Clusters of white flowers appear in April or May, followed by red or orange berries that birds like. Best planted in full sun to partial shade and well-drained soil with humus added. Water deeply once every seven to 10 days. Buy fireblight-resistant varieties.



Sorbus aucuparia, fruit

S. alnifolia (Korean Mountain Ash) – 40 ft. tall by 30 ft. wide; red or yellow berries.

S. aucuparia (European Mountain Ash) – 30 ft. tall by 20 ft. wide; orange berries; orange fall color.



Tilia americana

Tilia species



Linden – This tree has very appealing dark green, heart-shaped leaves; unfortunately they may turn yellow only briefly in fall (if at all). It has fragrant greenish-yellow flowers in July and inconspicuous fruit. The dense canopy produces very deep shade, so it is not a good candidate to plant within a lawn. If the leaves appear to be “dripping,” it is infested with aphids and is receiving too much water. A dormant oil spray in winter kills overwintering insect larvae. This tree becomes tattered in high wind areas; plant in a protected spot or choose a different tree. Plant in full sun to light shade and well-drained soil with humus added. Water deeply once every seven days.

T. americana (American Linden) – 60 ft. tall by 50 ft. wide; large leaves; yellowish-white flowers in midsummer.

T. cordata (Littleleaf Linden) – 80 ft. tall by 50 ft. wide; blue-green leaves.

3

Avoid these plants

Remove flammable native plants and avoid placing evergreen shrubs and trees within 30 feet of the house.

Firefighters often refer to highly flammable vegetation as “gasoline plants.” These plants are easily ignited and can burn very intensely. Do not plant or retain gasoline plants within 30 feet of the house.





| BOTANICAL NAME | COMMON NAME | PAGE |
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Artemisia absinthium

Artemisia species

Sagebrush or Wormwood – These hardy herbs and shrubs are known for their volatile oils. As these plants heat up from approaching fire, they easily ignite and burn intensely. They include:

- A. absinthium* (Absinth Wormwood)
- A. schmidtiana* (Silver Mound)
- A. stellerana* (Sagewort)
- A. tridentata* (Big Sagebrush)



Artemisia schmidtiana



Artemisia stellerana



Calamagrostis acutiflora

Calamagrostis acutiflora

Feather Reed Grass – Ornamental grasses have become popular in landscaping, as they thrive in a wide range of soils. However, when dry, they become a fire hazard and should not be planted near the house.



Artemisia tridentata



Calocedrus decurrens

Calocedrus decurrens

Incense Cedar This Sierra Nevada native is valued for its drought tolerance. However, as with most evergreen trees, it should be planted at least 30 ft. from the house.



Cedrus atlantica 'Glauca'

Cedrus atlantica 'Glauca'

Blue Atlas Cedar – This is a beautiful specimen plant, but as an evergreen with fine-textured leaves, it is a fire hazard. It should be planted at least 30 ft. from the house.

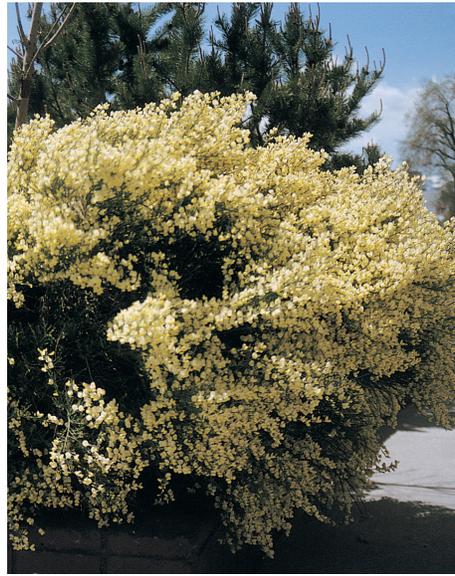




Chrysothamnus nauseosus

Chrysothamnus nauseosus

Rubber Rabbitbrush – This plant thrives in desert climates and blooms with bright yellow flowers late summer to fall. The oils in it make it a poor choice for high fire hazard areas.



Cytisus scoparius 'Moonlight'

Cytisus species

Broom – Considered a noxious weed in many states, this perennial is still commonly used in landscaping. Because it has dry woody growth, avoid planting it in fire hazard areas.



Juniperus chinensis

Juniperus species

Juniper – These plants have dense, fine-textured leaves and contain flammable chemicals. Once ignited, they burn intensely.

J. chinensis (Chinese Juniper) – Varieties of this plant range in height from 2-15 ft. They are some of the most commonly used landscape plants and often become crowded and too large in landscapes.

J. horizontalis (Creeping Juniper) – This is a low-growing ground cover, rarely growing more than 6 in. tall, but spreading over 6 ft.



Cupressus glabra

Cupressus glabra

Arizona Cypress – This fast-growing and drought-tolerant evergreen grows to 30 ft. tall, but is another example of a woody plant that has dense fuels and is a fire hazard. Avoid this plant within 30-100 ft. of the home, depending on slope.



Genista lydia

Genista species

Dwarf Broom – Although most varieties are low-growing, their dry woody stems and dense pattern of growth makes them a high fire risk. Flying embers can easily ignite these plants.



Juniperus horizontalis





Juniperus scopulorum 'Blue Haven'

Juniperus species

J. scopulorum 'Blue Haven' (*Blue Haven Juniper*) – This upright juniper grows 10 ft. tall and spreads 4 ft. It provides a ready fuel source for ignition from flying embers and should be avoided within 30 ft. of the house in high fire hazard areas.

J. occidentalis (*Western Juniper*) – This native juniper can be 40 ft. tall and 30 ft. wide. With its size, persistent dead wood and dry needles, it can be an extreme fire hazard.



Juniperus occidentalis



Picea glauca 'Conica'

Picea glauca 'Conica'

Dwarf Alberta Spruce – This popular dwarf spruce is prone to spider mites that kill parts of the plant, making it good fuel for fire.



Picea pungens

Picea pungens

Spruce – The blue spruce retains a dense interior of dry needles and branches, as well as needles underneath, creating a ready fuel source for ignition.



Pinus mugo

Pinus species

Pine – Pines contain volatile oils, making them a bad choice for landscapes in high fire hazard areas. The dry needle litter underneath and within the interior of the tree are additional fire hazards. Once ignited, pines generally burn intensely.

P. mugo (*Mugo Pine*) – Often sold as a dwarf form, this pine can reach over 15 ft. in height. Keep it at least 30 ft. from the house.

P. monticola (*Western White Pine*) – Although an attractive landscape tree, its inherent traits make it a fire risk. Keep it 30 ft. from the house.



Pinus monticola



Pinus monophylla

P. monophylla (Pinyon Pine) – This native is an extremely “sappy” tree that tolerates extreme drought. It burns very hot. It does not tolerate landscape irrigation.

P. jeffreyi (Jeffrey Pine) – The volatile oils in this native tree are a fire hazard near a home.

P. nigra (Black Pine) – The black pine is one of the most widely used landscape pines. Its dense growth makes it another pine to keep away from the house.



Pinus jeffreyi



Pinus nigra



Sequoiadendron giganteum

Sequoiadendron giganteum

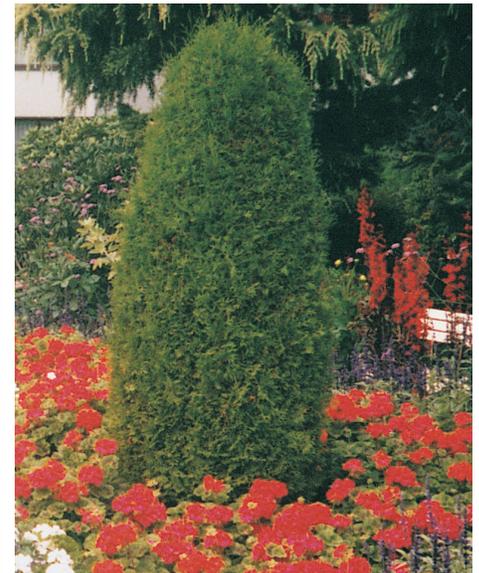
Giant Redwood – With its volatile oils and dead interior needles, this tree can ignite and send embers flying for long distances.



Thuja occidentalis

Thuja occidentalis

Arborvitae – The arborvitae has been traditionally planted next to foundations. This plant can reach 30 ft. in height and spread 15 ft. It is one of the worst evergreens for having dead interiors and litter. It creates an extreme fire hazard and should be removed within 30 ft. of the house.



Thuja occidentalis 'Emerald'

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Resources

For more information about Nevada's horticulture and natural resource issues: extension.unr.edu

For more information on reducing the threat of wildfire to your home: livingwithfire.com

For more information about landscaping to conserve water: tmwa.com



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For more information

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