Cooperative Extension Service

Brief facts . . .

Fire Wise landscaping can be aesthetically pleasing while reducing potential wildfire fuel.

Plant choice, spacing and maintenance are critical.

Your landscape and the plants in it must be maintained to retain their fire wise properties.

Energy, Minerals and Natural Resources Department
Forestry Division

Fire Wise Plant Materials

Creating a defensible space around your home is one of the most important and effective steps you can take to protect you, your family and your home from catastrophic wildfire. Defensible space is the area between a structure and an oncoming wildfire (or between a burning structure and wildland vegetation) where nearby vegetation has been modified to reduce a wildfire's intensity.

Fire Resistance

Many native plants are highly flammable during different seasons of the year. At such times, left unmanaged, they can accelerate the spread of a wildfire through your neighborhood, threatening homes, property and lives.

All vegetation, naturally occurring and otherwise, is potential fuel for fire. Its type, amount and arrangement have a dramatic effect on fire behavior. There are no truly "fireproof" plant species. Plant choice, spacing and maintenance are critical to defensible space landscaping. Where and how you plant can be more important than what species you use. However, given alternatives, choose plant species that tend to be more fire resistant.

General concepts to keep in mind when choosing Fire Wise plant species:

- A plant's moisture content is the most important factor governing its volatility. (However, resin content and other factors in some species render them flammable even when the plant is well-watered.) Conifers tend to be flammable due to their oil and pitch content, regardless of water status.
- Deciduous plants tend to be more fire resistant, because their leaves have higher moisture content and their basic chemistry is less flammable. Also, when deciduous trees are dormant, there is less fuel to carry fire through their canopies.

In some cases, there is a strong correlation between drought tolerance and fire resistance. Examples of drought tolerant characteristics that can increase fire resistance:

- Drought deciduous plants drop their leaves or needles in extreme drought.
- Some drought-adapted species have smaller leaves or very succulent leaves that store moisture.
- Salt tolerant plants often show natural fire resistance. A notable exception to this trend is salt cedar, which is highly salt tolerant but contains extremely volatile oils and burns very hot.

Plants that are more resistant to wildfire have one or more of the following characteristics:

- They grow without accumulating large amounts of combustible dead branches, needles or leaves (aspen).
- They have open, loose branches with a low volume of total vegetation (currant and mountain mahogany).
- They have low sap or resin content (many deciduous species).
- They have high moisture content (succulents and some herbaceous plants).
- They grow slowly and need little maintenance (do not need frequent pruning).
- They are short and grow close to the ground (small wildflowers and groundcovers).

- They can reestablish following a fire, reducing relandscaping costs (aspen, New Mexico locust).

Some additional tips to follow when planning a Fire Wise landscape include:

- Landscape according to the recommended defensible-space zones. The plants nearest your home should be more widely spaced and smaller than those farther away.
- Plant in small, irregular clusters and islands, not in large masses.
- Break up the continuity of the vegetation (fuel) with decorative rock, gravel and stepping stone pathways. This will help modify fire behavior and slow its spread across your property.
- Plant a variety of types and species. Besides being aesthetically pleasing, this will help ensure a healthier ecosystem by reducing insects and diseases. A healthy, vigorous landscape can better resist catastrophic fires than unhealthy ones with insect and disease problems.
- In the event of drought and water rationing, prioritize the plants you wish to save. Provide supplemental water to those nearest your home. If you want to use "gray water," you need a separate cesspool, and your wastewater recycling system must have a permit and be approved by the New Mexico Environment Department.
- Mulch to conserve moisture and reduce weed growth. Mulch can be organic (wood chips or small bark pieces) or inorganic (gravel or rock). Avoid pine bark, thick layers of pine needles or other materials that can easily carry fire.

For more information on . . .

Wildland fire. Check out the Southwest Area World Wide Web page at www.fs.fed.us/r3/fire/

Wildland urban interface issues and recommendations on creating defensible space. Find good information at www.colostate.edu/Depts/CSFS/fire/interface.htm

Wildland urban interface issues, go to www.firewise.org

Don t Forget Maintenance

A landscape is a dynamic, constantly changing system. Plants considered "fire resistant" and that have low fuel volumes can lose these characteristics over time. Your landscape and the plants in it must be maintained to retain their Fire Wise properties.

- Be aware of the growth habits of plants on your land and the changes that occur seasonally. Stay ahead of the need to reduce fuel volumes and break up fuel continuity.
- Remove annual, herbaceous plants after they have gone to seed or when the stems dry out.
- Rake up and dispose of litter as it builds up over the season.
- Mow or trim grasses to a low height within your defensible space. Keep grass shortest in the inner part of your defensible space and no more than 6 inches high in the outer portions. This is especially important as they begin to cure and dry.
- Remove plant parts damaged by snow, wind, frost, insect or disease.
- Timely pruning is critical. It not only reduces fuel volume, but also maintains healthier plants with more succulent, vigorous growth.

This publication is based on and borrowed heavily from a publication by Chuck Dennis of the Colorado State Forest Service, Colorado State University. Thanks to our neighbors to the north.

Trees and Large Shrubs

Scientific Name	Common Name	Appr. Water Needs	Sun/ Shade Pref.	Appr. Mature Height (feet)	Elevation (1,000 feet) 4	5	6	7	8	9+	Appr. Bloom Month
Acer glabrum	Rocky Mountain maple	M-H	S/PS/Sh	6-10	N	?	Y	Y	Y	Y	n/a
Acer grandidentatum	Big-tooth maple	M-H	S/PS	10-20	?	Y	Y	Y	Y	?	n/a
Alnus oblongifolia	NM or Arizona alder	H	S/PS	50-60	?	Y	Y	Y	Y	?	n/a
Alnus tenuifolia	Thin-leaf alder	H	S/PS	10-20	?	Y	Y	Y	Y	Y	n/a
Amelanchier alnifolia	Saskatoon alder-leaf serviceberry	L-M	S	6-15	Y	Y	Y	Y	Y	Y	Apr-May
Amelanchier utahensis	Utah serviceberry	VL-M	S	5-10	?	Y	Y	Y	?	N	May
Betula occidentalis	Water birch	H	S/PS	6-10	?	Y	Y	Y	Y	?	n/a
Celtis reticulata	Netleaf hackberry	L-M	S	10-20	Y	Y	Y	Y	?	N	
Cercis canadensis	Redbud tree	M	S	5-15	Y	Y	Y	?	N	N	Apr
Chilopsis linearis	Desert willow	L-M	S/PS	6-20	Y	Y	Y	?	?	N	May-Aug
Crataegus erythropoda	Red hawthorn	M-H	S/PS	6-8	N	?	Y	Y	Y	?	May
Crataegus rivularis	River hawthorn	H	S/PS	8-10			Y	Y	Y	?	May
Forestiera neomexicana	New Mexico olive	L-M	S/PS	10-20	Y	Y	Y	Y	?	N	n/a
Fraxinus anomala	Singleleaf ash	M-H	S/PS	10-20	Y	Y	Y	?	N	N	n/a
Fraxinus cuspidata	Flowering (or fragrant) ash	M	S/PS	10-15	?	Y	Y	Y	?	N	Apr-May
Fraxinus velutina	Velvet ash	M	S/PS	20-30	?	Y	Y	Y	Y	N	n/a
Juglans major	Arizona walnut	M-H	S	20-40	?	Y	Y	Y	Y	N	n/a
Juglans minor	Little walnut	M	S	10-20	Y	Y	Y	Y	?	N	n/a
Mahonia trifoliata	Algerita	L	S	6-8	Y	Y	Y	Y	?	?	May-Jun
Mahonia haematocarpa	Red Mahonia	L	S	6-10	Y	Y	Y	Y	?	?	May-Jun
Platanus wrightii	Arizona sycamore	M-H	S	20-80	?	Y	Y	Y	Y	?	n/a
Populus angustifolia	Narrow-leaf cottonwood	M-H	S	30-90	?	Y	Y	Y	Y	Y	n/a
Populus sargentii	Plains cottonwood	M-H	S	30-90	?	Y	Y	Y	Y	?	n/a
Populus wizlizenus	Rio Grande cottonwood	M-H	S	30-90	Y	Y	Y	Y	?	?	n/a
Populus tremuloides	Aspen	M-H	S	20-40			Y	Y	Y	Y	n/a
Prunus americana	American wild plum	M	S/PS	10-20	Y	Y	Y	Y	Y	?	Apr
Prunus emarginata	Bitter cherry	L-M	S/PS	10-20	?	Y	Y	Y	Y	Y	May
Prunus virginiana	Western chokecherry	H	S/PS	10-30	?	Y	Y	Y	Y	Y	Apr
Robinia neomexicana	New Mexico locust	L-M	S/PS	10-20	Y	Y	Y	Y	Y	Y	Apr-Jun
Salix amygdaloides	Peachleaf willow	H	S/PS	30-60	Y	Y	Y	Y	Y	?	n/a
Salix gooddingii	Goodding's black willow	H	S/PS	30-90	Y	Y	Y	Y	?	?	n/a
Sambucus cerulea	New Mexico elder	M	S-PS	10-20	?	Y	Y	Y	Y	?	May-Jun
Sambucus mexicana	Mexican elder	M	S-PS	20-30	Y	Y	Y	?	N	N	May
Shepherdia argentea	Silver buffaloberry	M	S/PS	10-15	?	Y	Y	Y	Y	?	n/a
Syringa vulgaris	Common lilac	M	S	6-8	Y	Y	Y	Y	Y	Y	May
Yucca elata	Soaptree yucca	VL-L	S	3-15	Y	Y	Y	Y	N	N	Jun

Water needs: VL = very low, L = low, M = moderate, H = high
Sun shade preference: S = full sun, PS = partial sun, Sh = shade
Elevation in 1,000 feet: Y = yes, N = not recommended, ? = unknown or doubtful
Approximate bloom month is an estimate based on observed flowering or from field guides

Shrubs

Scientific Name	Common Name	Appr. Water Needs	Sun/ Shade Pref.	Appr. Mature Height (feet)	Elevation (1,000 feet) 4	5	6	7	8	9+	Appr. Bloom Month
Agave parryi	Mescal	VL	S	2-12	Y	Y	Y	?	N	N	Jun-Aug
Aloysia Wrightii or A. gratissima	Desert lavender	VL-L	S	3-6	Y	Y	Y	?	N	N	Jun-Aug
Amorpha fruticosa	False indigo, indigobush	M-H	S/PS	2-3	Y	Y	Y	Y	?	N	May-July
Arctostaphylos uva-ursi	Kinnikinnick, bearberry	M-H	PS/Sh	1-2	?	?	Y	Y	Y	Y	
Ceanothus fendleri	Buckbrush, Fendler ceanothus	M	S	2	?	Y	Y	Y	Y	Y	May-Aug
Cercocarpus intricatus	Dwarf mountain mahogany	VL-L	S	4-6	?	Y	Y	Y	?	N	n/a
Cercocarpus montanus	Mountain mahogany	L-M	S/PS	6-8	Y	Y	Y	Y	?	?	n/a
Chrysothamnus spp.	Rabbitbrush	VL-L	S	2-6	Y	Y	Y	Y	Y	Y	Jul-Aug
Cornus stolonifera	Red osier dogwood	H	S/Sh	4-6	Y	Y	Y	Y	Y	Y	Jun-Jul
Fallugia paradoxa	Apache plume	VL-L	S	2-4	Y	Y	Y	Y	?	N	Jun-Oct
Fendlera rupicola	Cliff fendlerbush	L-M	S/PS	4-6	?	Y	Y	Y	?	N	May
Fendlerella utahensis	Utah fendlerella	L-M	S	3	?	Y	Y	Y	Y	N	May
Holodiscus dumosus	Ocean spray, cliff or rock spirea	L-M	S/PS	4	Y	Y	Y	Y	Y	Y	Jun
Jamesia americana	Waxflower	M-H	S/Sh	2-4	N	?	Y	Y	Y	Y	Jun
Lonicera involucrata	Bush honeysuckle, inkberry	M-H	PS/Sh	4	N	?	?	Y	Y	Y	Jun
Mahonia repens	Creeping grape holly	L-H	S/Sh	1-2	Y	Y	Y	Y	Y	Y	Mar-May
Nolina microcarpa	Beargrass	VL-L	S	3	Y	Y	Y	Y	Y	N	Jun
Opuntia imbricata	Cane cholla	VL-L	S	3-5	Y	Y	Y	Y	?	N	Apr
Opuntia lindheimeri	Cow tongue prickly pear	VL-L	S	3-6	Y	Y	Y	?	N	N	Apr
Opuntia phaeacantha	Purple-fruit prickly pear	VL-L	S	1-3	Y	Y	Y	Y	?	?	May
Penstemon ambiguus	Sand penstemon	VL-L	S	1-3	Y	Y	Y	Y	N	N	Jun-Jul
Philadelphus microphyllus	Little-leaf mock orange	M	S	2-3	N	?	Y	Y	Y	Y	Jun
Physocarpus monogynus	Mountain ninebark	M	S/Sh	2-4	?	Y	Y	Y	Y	Y	Jun
Potentilla fruticosa	Shrubby cinquefoil	M	S/PS	2-3	?	Y	Y	Y	Y	Y	May-Sep
Purshia tridentata	Antelope bitterbrush	L-M	S	1-3	Y	Y	Y	Y	?	N	Jun-Aug
Ribes aureum	Golden currant	M	S/PS	2-3	?	Y	Y	Y	?	N	May
Rosa woodsii	Wood's wild rose	M	S/PS	2-3	Y	Y	Y	Y	Y	Y	July
Shepherdia canadensis	Russet buffaloberry	M-H	S	5-6	N	?	?	Y	Y	Y	n/a
Symphoricarpos spp.	Snowberry	M-H	S/PS	2-3	?	Y	Y	Y	Y	Y	n/a
Yucca baccata	Banana yucca	VL-L	S	2-3	Y	Y	Y	Y	N	N	Jun
Yucca glauca	Great Plains yucca	VL-L	S	2-3	?	Y	Y	Y	Y	N	Jun

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Flowers and Ground Covers

Scientific Name	Common Name	Appr. Water Needs	Sun Shade Pref.	Appr. Mature Height (feet)	Elevation (1,000 feet) 4	5	6	7	8	9+	Appr. Bloom Month
Achillea lanulosa	Western yarrow	L-H	S/PS	1.5-2	Y	Y	Y	Y	Y	Y	Jul
Aconitum columbianum	Monkshood	M-H	S	2	Y	Y	Y	Y	Y	Y	Jun-Jul
Allium cernuum	Nodding onion	L-H	S/PS	1	N	Y	Y	Y	Y	Y	Jun
Allium geyeri	Wild onion	L-H	S/PS	1	N	?	Y	Y	Y	Y	Jun
Anemone patens	Pasque flower	M	S/PS	1	N	Y	Y	Y	Y	Y	Mar
Antennaria rosea	Pink pussytoes	M	S/PS	<.5	N	Y	Y	Y	Y	Y	Jun
Aquilegia chrysantha	Yellow columbine	M-H	S/PS	1-2	Y	Y	Y	Y	Y	Y	Jul
Aquilegia coerulea	Blue columbine	M-H	S/PS	1-2	Y	Y	Y	Y	Y	Y	Jun-Jul
Aquilegia desertorum	Red columbine	M-H	S/PS	1-2	Y	Y	Y	Y	Y	Y	Jun-Jul
Artemisia frigida	Fringed sage	VL-M	S	1-1.5	Y	Y	Y	Y	Y	Y	n/a
Aster laevis	Smooth aster	L-H	S/PS	1-3	Y	Y	Y	Y	?	?	Aug-Sep
Calochortus spp.	Mariposa lily	M-H	S	.5-2	?	Y	Y	Y	Y	N	Jul-Aug
Claytonia lanceolata	Spring beauty	M	Sh	.5-1.5	?	Y	Y	Y	Y	?	Apr
Convallaria majalis	Lily of the valley	H	Sh	.5	N	Y	Y	Y	Y	?	May
Delphinium spp.	Delphinium	M-H	S/PS	.5-3	Y	Y	Y	Y	Y	Y	Jun-Jul
Echinacea purpurea	Purple coneflower	M	S	2-3	Y	Y	Y	Y	Y	Y	Jul-Aug
Epilobium angustifolium	Fireweed	H	S/PS	3	N	?	Y	Y	Y	Y	Jul-Aug
Erigeron flagellaris	Trailing fleabane	L-M	S	<1	?	Y	Y	Y	?	N	Jun-Jul
Erysimum asperum	Western wallflower	M	S/PS	1-2	?	Y	Y	Y	Y	N	Jun-Jul
Gaillardia pulchella	Blanket flower	L-M	S	1-2	Y	Y	Y	Y	Y	N	Jul-Sep
Gallium boreale	Northern bedstraw	M-H	Sh	<1	N	Y	Y	Y	Y	Y	May
Geranium caespitosum	Wild geranium	M	Sh/PS	2	N	Y	Y	Y	Y	Y	May-Oct
Gmapthalium spp.	Everlasting	M	S/PS	.5-2	?	Y	Y	Y	Y	?	Aug
Helianthella quinquinervis	Aspen sunflower, 5-nerved wood sunflower	M	S	1	N	?	?	Y	Y	Y	Jun
Helianthus maximiliani	Maximilian sunflower	M-H	S/PS	2-5	?	Y	Y	Y	Y	?	Aug
Heuchera spp.	Coral bells	M-H	Sh/PS	1-2	N	Y	Y	Y	Y	Y	Jun-Jul
Ipomopsis aggregata	Scarlet gilia	M	S/PS	1-3	N	Y	Y	Y	Y	Y	Jun-Jul
Iris germanica	Bearded iris	L-M	S/PS	1-3	Y	Y	Y	Y	Y	Y	Apr-Jun
Iris missouriensis	Wild iris	M-H	S	2-3	N	?	Y	Y	Y	Y	Jun
Lavendula spp.	Lavender	L-M	S	1-2	Y	Y	Y	Y	Y	Y	Jun-Nov
Lesquerella fendleri	Fendler bladderpod	VL-L	S	.5	Y	Y	Y	Y	N	N	May
Leucocrinum montanum	Sand lily	L-M	S	<1	Y	Y	Y	Y	?	?	May
Liatris punctata	Dotted gayfeather	VL/L	S	1-2	Y	Y	Y	Y	Y	Y	Aug-Oct
Linum lewisii	Blue flax	L-H	S/PS	1-2	Y	Y	Y	Y	Y	Y	May-Sep
Mertensia fransiscana	Fransiscan bluebells	M-H	Sh/PS	1-2	N	N	?	Y	Y	Y	Jun-Jul
Mimulus guttatus	Yellow monkey flower	H	Sh	1	?	?	Y	Y	Y	Y	Jun-Jul

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Approximate bloom month is an estimate based on observed flowering or from field guides.

Flowers and Ground Covers (continued)

Scientific Name	Common Name	Appr. Water Needs	Sun/ Shade Pref.	Appr. Mature Height (feet)	Elevation (1,000 feet) 4	5	6	7	8	9+	Appr. Bloom Month
Monarda fistulosa	Bergamot	M-H	S/PS	1-2	N	Y	Y	Y	Y	Y	Jul-Oct
Oenothera caespitosa	Stemless evening primrose	L-M	S	1-2	Y	Y	Y	Y	Y	Y	Jun-Aug
Parthenocissus quinquifolia	Virginia creeper, woodbine	M	S/PS	vine	Y	Y	Y	Y	Y	Y	n/a
Penstemon alamosensis	Alamo penstemon	VL-L	S/PS	1-3	Y	Y	Y	?	?	N	Apr
Penstemon angustifolius	Taperleaf penstemon	VL-L	S	1-2	?	Y	Y	Y	?	N	May
Penstemon barbatus	Scarlet penstemon	L-M	S/PS	1-3	?	Y	Y	Y	Y	?	Jun
Penstemon cobaea	Foxglove penstemon	L	S	1-4	Y	Y	Y	Y	?	N	Jun
Penstemon cardinalis	Cardinal penstemon	L-M	S/PS	1-2	N	?	Y	Y	Y	?	Jun
Penstemon eatonii	Eaton's firecracker	L-M	S/PS	1-3	?	Y	Y	Y		N	Apr
Penstemon neomexicanus	New Mexico penstemon	L	S/PS	1-2	?	?	Y	Y	Y	?	July
Penstemon pinifolius	Pine-leaved penstemon	L-M	S/PS	.5	?	Y	Y	Y	Y	?	Jun
Penstemon pseudospactabilis	Perfoliate penstemon	VL-L	S/PS	2-5	?	Y	Y	Y	?	N	Jun
Penstemon palmeri	Palmer penstemon	VL-L	S/PS	2-4	Y	Y	Y	?	N	N	Jun
Penstemon strictus	Purple mountain penstemon	L-M	S/PS	1-2	?	Y	Y	Y	Y	?	Jun
Penstemon superbus	Superb penstemon	L	S/PS	2-5	Y	Y	Y	Y	?	N	Apr
Penstemon thurberi	Thurber penstemon	L	S	1-3	Y	Y	Y	?	N	N	Jun
Penstemon whippleanus	Dusky penstemon, Whipple penstemon	M	S/PS	1-2	N	N	?	Y	Y	Y	Jul
Phlox nana	Santa Fe phlox	L	S/PS	<1	?	Y	Y	Y	Y	?	Jun
Phlox subulata	Moss phlox	M	S	<.5	Y	Y	Y	Y	Y	Y	May
Polemonium foliosissimum	Jacob's ladder	H	S/PS	1-2	N	Y	Y	Y	Y	Y	May-Aug
Potentilla thurberi	Red cinquefoil	H	S/PS	1-2	N	Y	Y	Y	Y	N	Aug
Ratibida columnifera	Prairie coneflower	L-M	S	2	Y	Y	Y	Y	Y	Y	Jul-Sep
Rudbeckia laciniata	Cutleaf coneflower	M-H	S/PS	2-3	Y	Y	Y	Y	Y	Y	Jul-Sep
Salvia spp.	Sage	L-M	S/PS	1-3	Y	Y	Y	Y	Y	Y	Jun
Saxifraga spp.	Saxifrage	M-H	S/PS	.5-1	N	?	Y	Y	Y	Y	Jul-Aug
Scutellaria drumondii	Scullcap	VL/L	S/PS	.5	Y	Y	Y	?	N	N	Apr
Sedum spp.	Stonecrop	L-M	S/PS	1-1.5	Y	Y	Y	Y	Y	Y	Jul-Aug
Sedum lanceolatum	Yellow stonecrop	M	S/PS	.5	Y	Y	Y	Y	Y	Y	Jul-Aug
Sempervivum sp.	Hen and chicks	L-M	S/PS	.5	Y	Y	Y	Y	Y	Y	n/a
Senecio spartioides	Broom groundsel	VL-L	S	2-3	Y	Y	Y	?	N	N	Sep
Solidago canadensis	Canada goldenrod	M-H	S	2-3	N	Y	Y	Y	Y	?	Jul-Aug
Thalictrum fendleri	Fendler meadowrue	H	S/PS	2-3	N	?	?	Y	Y	Y	Jul-Aug
Thermopsis gracilis	Golden pea	M-H	S/PS	1.5	N	Y	Y	Y	Y	?	May
Tradescantia occidentalis	Western spiderwort	M	S/PS	1.5	?	Y	Y	Y	Y	?	Jun-Aug
Thymus spp.	Thyme	L-M	S	<.5	Y	Y	Y	Y	Y	Y	Apr
Zinnia grandiflora	Rocky Mountain zinnia	VL-L	S	.5	Y	Y	Y	?	N	N	Jun-Jul

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Cane Cholla

Golden Currant

Cliff Fenderbush

Lilac

Elderberry

Mountain Ninebark

New Mexico Locust

Prickly Pear Cactus

Woods Rose

Snowberry

Velvet Ash