

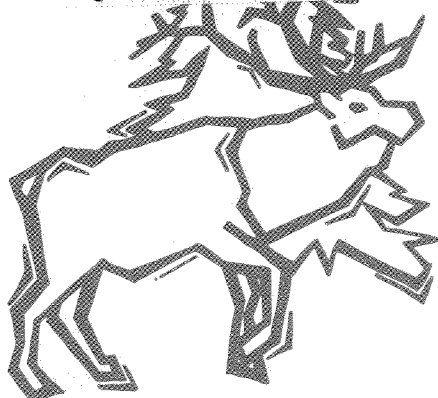
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Quick Facts...

More people are moving into Colorado's rural areas, increasing the chances of wildfire.

"Defensible space" is the primary determinant of a structure's ability to survive wildfire.

Native species are generally the best plant materials for landscaping in defensible space, but others can be grown successfully in Colorado.

FORESTRY

Fire-Resistant Landscaping

by F.C. Dennis¹

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Colorado's population is growing, its urban areas are rapidly expanding, and people are building homes in what was once natural forest. Newcomers to rural areas often are misinformed about how to correctly landscape their property.

Improper landscaping worries land managers and fire officials because it can greatly increase the risk of structure and property damage from wildfire. It is a question of when, not if, a wildfire will strike in any particular area.

Vegetative clearance around the house (defensible space) is the primary determinant of a home's ability to survive wildfire. Defensible space is, simply, **room for firefighters to do their job.** If grasses, brush, trees and other common forest fuels are removed, reduced, or modified to lessen a fire's intensity and keep it away from the home, chances increase that the structure will survive. See fact sheet 6.302, *Creating Wildfire-Defensible Zones*.

Colorado has great diversity in climate, geology and vegetation. Homesites and cabins can be found from the foothills up to 10,000 foot elevations. Such extremes present a challenge in recommending plants. While native plant materials generally are best, a wide range of species can be grown successfully in Colorado. Recommended plants are listed in:

- 7.406, *Garden Flowers for Mountain Communities*;
- 7.407, *Shrubs for Mountain Communities*;
- 7.408, *Trees for Mountain Communities*; and
- 7.413, *Ground Covers for Mountain Communities*.

Most of these species can be used for landscaping in defensible space. Use restraint and common sense and pay attention to plant arrangement and maintenance. Consider the following factors when landscaping within the defensible space.

Grasses

Mow grasses low in the inner zones of the defensible space. Keep them short closest to the house and gradually increase height outward from the house, to a maximum of 8 inches. This is particularly important during fall, winter and before green-up in early spring, when grasses are dormant and in a "cured" fuel condition.

A "fire safe" seed mix, developed by the Genesee Forestry Committee (a homeowner group in the foothills west of Denver), creates a relatively dense, low-growing, hardy and easy-to-maintain turf (see Table 1). The mixture has been used successfully for several years. Contact your local Natural Resources Conservation Service office or district office of the Colorado State Forest Service for information on seed mixes for your particular area.

Mow grasses low around the house and garage, as well as around outbuildings, decks, firewood piles, propane tanks, shrubs and specimen trees with low-growing branches.

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The best tree species to plant generally are those naturally occurring on or near the site.

Mow grass short around shrubs.

Plant low-growing, nonresinous shrubs near structures.

Keep grass mown around structures to a maximum of 8 inches.

Plant wildflowers near structures only if they are well-irrigated and cut back during the dormant season.

Gravel area or mow grass short next to the structure.

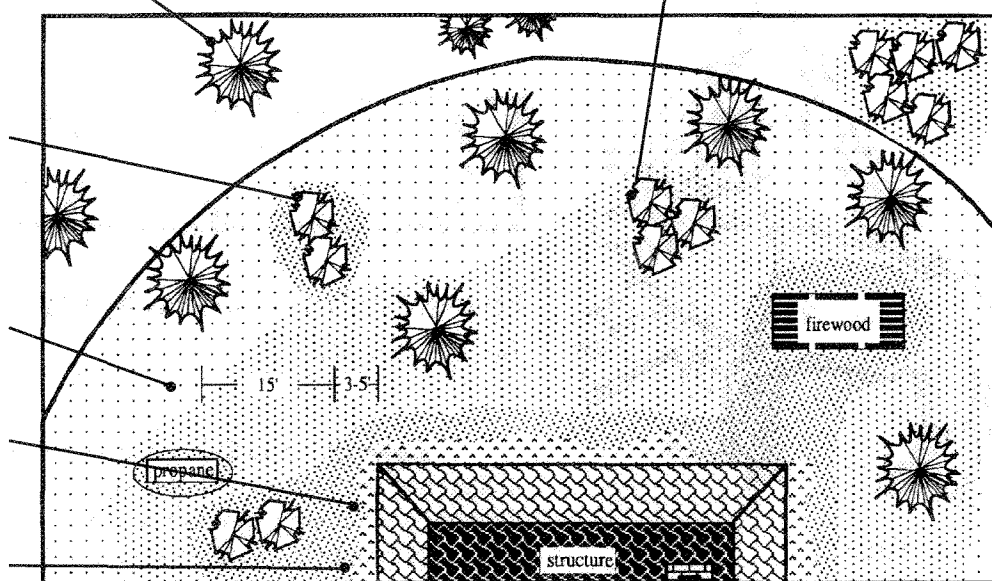


Figure 1: Forested property surrounding a homesite; shows optimum placement of vegetation near the structure.

Wildflowers

Wildflowers bring variety to a landscape and provide color from May until frost. Wildflower beds give a natural appearance to the otherwise manicured look often resulting from defensible space development. (See 7.233, *Wildflowers in Colorado*.)

A concern with wildflowers is the tall, dense areas of available fuel they can form, especially in dormancy. To mitigate fire hazard, plant wildflowers in widely separated beds within the defensible space. Do not plant directly adjacent to structures unless the beds are frequently irrigated and vegetation promptly removed after the first hard frost. Use gravel walkways, rock retaining walls, or irrigated grass areas mowed to a low height to isolate wildflower beds from each other and from other fuels.

Shrubs

Shrubs lend color and variety to the landscape, in addition to providing cover and food for wildlife (see 7.407). However, shrubs concern fire professionals because, as the next level in the “fuel continuum,” they can add significantly to total fuel loading. They are a potential source of fire brands that, when carried in the smoke column ahead of the main fire, can rapidly spread the fire in a phenomenon known as spotting.

But the primary concern with shrubs is that they are a ladder fuel — they can carry a relatively easy-to-control surface fire into tree crowns. Crown fires are very difficult, sometimes impossible, to control (see Figure 2).

To reduce the fire-spreading potential of shrubs, plant low-growing, non-resinous varieties close to structures. (Recommended plants are listed in 7.406, 7.407, 7.408 and 7.413.) Do not plant them directly beneath windows or vents or where they might spread under wooden decks. Do not plant shrubs under tree crowns or use them to screen propane tanks, firewood piles or other flammable materials. Plant shrubs individually, as specimens, or in small clumps apart from each other and away from any trees within the defensible space.

Mow grasses low around shrubs. Prune dead stems from shrubs annually. Remove the lower branches and suckers from species such as Gambel oak to raise the canopy away from possible surface fires. For proper pruning techniques, see:

Table 1: Fire-control seed mix developed by the Genesee homeowner group.

Grass	% by Weight
Crested wheatgrass ‘Ephriam’	40
Buffalograss, TREATED seed	30
Arizona fescue ‘Redono’	13
Hard fescue ‘Durar’	13
Blue grama ‘Lovington’	2
Sideoats grama ‘Vaughn’ or ‘Butte’	2

Sow mixture at 15 pounds pure live seed per acre or .5 to 1 pound pure live seed per 1,000 sq. ft. Rake seed in following sowing.



Figure 2: Ladder fuels enable fire to travel from the ground surface into shrubs and then into the tree canopy.

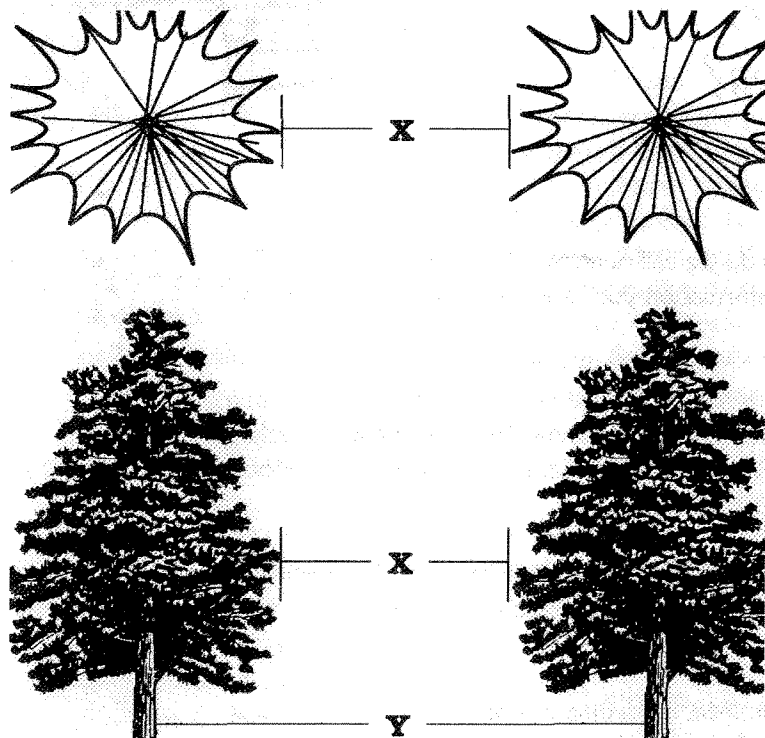


Figure 3: X = crown spacing; Y = stem spacing. Do not measure between stems for crown — measure between the edges of tree crowns.

7.205, *Pruning Evergreens*;
7.206, *Pruning Shrubs*; and
7.207, *Pruning Deciduous Trees*.

Trees

Trees provide a large amount of fuel for a fire and can be a significant source of fire brands if they do burn. Burning trees give off a large amount of radiant heat, which can ignite nearby shrubs, trees or structures.

Colorado's elevation and temperature extremes limit tree selection. The best species to plant generally are those that are already growing on or near the site, but others may be planted if care and common sense are used. (See 7.408.)

If your site receives enough moisture to grow them, plant deciduous trees such as aspen or narrowleaf cottonwood. These species, even when planted in dense clumps, generally will not burn well, if at all. The greatest problem with these trees is the accumulation of dead leaves in the fall. Remove accumulations close to structures as soon as possible after leaf drop.

When site or moisture availability limits recommended species to evergreens, carefully consider their placement. Do not plant trees near structures. Allow plenty of room between trees and consider the growth potential of each species. Spacing within the defensible zone should be at least 10 feet between the edges of tree crowns. Plant smaller trees initially on a 20- to 25-foot spacing to allow for tree growth. At some point, it may be necessary to thin your trees to retain proper spacing.

As they grow, prune tree branches to a height of 10 feet above the ground. Do not overprune the crowns of smaller trees. Prune existing trees as well as ones you planted.

Some trees (for example, blue spruce) tend to keep a full crown; trees grown in the open may exhibit a full growth habit. Limit the number of trees of this type within the defensible space. Prune others as described above and mow grasses around such specimen trees.

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