

FIREWISE LANDSCAPING

Providing “defensible space” through vegetation management and landscaping is one of the most important ways you can help your home to survive a wildfire. When conditions are dry and windy, grasses, brush, trees or other vegetation surrounding your home become a fuel source. When these plants are removed, reduced, or modified, chances increase that your home will survive a wildfire’s intensity.

The goal of **Firewise Landscaping** is to develop a home landscape where the design and choice of plants can offer effective fire protection. The proper selection of plants and mulches, the placement and construction of patios and decks, and areas such as driveways and walks provide opportunities both to enhance the property and to provide an added degree of fire protection.

Defensible space practices for vegetation management and landscaping include:

- Increasing the moisture content of vegetation
- Decreasing the amount of flammable vegetation
- Shortening plant height
- Altering the arrangement of plants

Many fire-resistant native and ornamental plant species are suitable for Firewise landscaping in Tennessee. A listing of these fire-resistant trees and shrubs are found in the information sheet **Firewise Landscaping Plants for Tennessee**.

Consider the following factors when planning, designing and planting your Firewise landscape:

1. Landscape according to the following recommended defensible space zones found in the Division of Forestry’s information sheet “Creating Effective Defensible Space.”
2. Do not plant trees, shrubs and other vegetation in large masses. Instead, plant in small, irregular clusters or islands to break up the continuity of the vegetation and fuels. This can modify fire behavior and slow the spread of the fire across your property.
3. Another way to break up fuel continuity is to use decorative rock, gravel and stepping stone pathways and retaining walls as your landscape’s “hardscape.”
4. Incorporate a diversity of plant types and species in your landscape. Not only will this be visually satisfying, but also it should help keep

pests and diseases from causing problems within the whole landscape.

5. Provide available supplemental water to plants closest to your house.
6. Use mulches to conserve moisture and reduce weed growth. Mulch can be organic or inorganic. Don’t use organic mulches next to buildings.
7. Be creative! Further vary your landscape by including bulbs, garden art and containers for added color.

Quick Facts...

- Wildfires do not respect boundary lines. A good Firewise landscape is dependent on other factors (many out of your own control), such as the condition and maintenance of the neighboring property.
- “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 Tennessee.
- Proper maintenance improves appearance and helps protect the structure from wildfire.
- To be a Firewise homeowner, plan well, plant well and maintain well.
- Landscapes that are easy for homeowners to maintain are more desirable than highly complex arrangements that can be neglected.

Plant Selection and Maintenance

Grasses

During much of the year, grasses can ignite easily and burn rapidly. Tall grasses will quickly carry fire to your house. This is particularly important during fall, winter and before green-up in early spring, when grasses are dry, dormant and in a “cured” fuel condition.

During a wildfire, a well-watered grassy area around your home is critical as the last line of defensible space. Mow grasses low in your defensible space. Keep them short closest to the house and gradually increase height outward from the house, to a maximum of 8 inches.

In addition, mow grasses low around the garage, outbuildings, decks, firewood piles, propane tanks, shrubs and specimen trees with low-growing branches.

Ground Cover Plants

Replace bare, weedy or unsightly patches near your home with ground covers, rock gardens, vegetable gardens and mulches. Ground cover plants are a good alternative to grass for parts of your defensible space, since they can break up the monotony of grass and enhance the beauty of your landscape. They also provide a variety of textures and color and help reduce soil erosion. Consider ground cover plants for areas where access for mowing or other maintenance is difficult, on steep slopes and on hot, dry exposures.

Ground cover plants are usually low growing. When planted in beds surrounded by walkways and paths or in raised beds or as part of a rock garden, they become an effective barrier to fire spread. The ideal groundcover plant is one that will spread, forming a dense mat of roots and foliage that reduces soil erosion and excludes weeds.

Mulch

Mulch helps control erosion, conserve moisture and reduce weed growth. It can be organic (compost, leaf mold, bark chips, shredded leaves) or it can be inorganic (gravel, rock, decomposing granite).

When using organic mulches, use just enough to reduce weed and grass growth. Avoid thick layers. When exposed to fire, they tend to smolder and are difficult to extinguish. Organic mulches should not be used right next to your house or other buildings. Likewise, while your property might yield an abundance of needles from your native pines or other conifers, don't use them as mulch because they can readily catch and spread wildfire. Rake, gather and dispose of them often within your defensible space.

Wildflowers

Wildflowers bring variety to a landscape and provide color. Wildflower beds provide a softer, more natural appearance to the otherwise manicured look often resulting from defensible space development.

A concern with wildflowers is the tall, dense areas of available fuel they can form, especially in dormancy. To reduce fire hazard, plant wildflowers in widely separated beds within the defensible space. Do not plant them next to structures unless the beds are frequently watered and weeded and vegetation is 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 and provide cover and food for wildlife. However, shrubs concern fire professionals because, as the next level in the "fuel continuum," they can add significantly to total fuel loading. Because of the woody material in their stems and branches, they are a potential source of firebrands. When carried in the smoke column ahead of the main fire, firebrands can rapidly spread the fire in a phenomenon known as "spotting."

The primary concern with shrubs is that they are a "ladder fuel" – they can carry a relatively easy-to-control surface grass fire into tree crowns. Crown fires are difficult, sometimes impossible, to control.

To reduce the fire-spreading potential of shrubs, plant only widely separated, low-growing, nonresinous varieties close to structures. 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 and prune dead stems from shrubs annually.

Trees

Trees provide a large amount of available fuel for a fire and can be a significant source of firebrands if they do burn. Radiant heat from burning trees can ignite nearby shrubs, trees and structures.

The best species to plant generally are those already growing on or near the site. Others may be planted with careful selection and common sense. If your site receives enough moisture to grow them, plant

deciduous trees such as oaks and maples. These species, even when planted in dense clumps, generally do 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 available moisture limits recommended species to evergreens, carefully plan their placement. Do not plant trees near structures. Leave plenty of room between trees to allow for their growth. Spacing within the defensible space should be at least 10 feet between the edges of 1 tree crowns. On steep ground, allow even more space between crowns. Plant smaller trees initially on a 20- to 25-foot spacing to allow for tree growth.

Pruning

As trees grow, careful pruning preserves their appearance, structural integrity and functional values. But pruning also maintains their ability to resist fire.

Pruning tree branches at least six to ten feet from the ground helps interrupt the fire's path. Pruning cuts should be clean and smooth, avoiding flush cuts and stubs. A well-pruned tree heals quickly while poor pruning results in scarring and possible disease. No more than one-third of a tree's live foliage should be removed at one time to avoid stress. Young, vigorous trees can withstand more severe pruning than older, weaker trees. Remove dead and diseased branches from trees. This reduces the potential for fire spreading into the crown. Shrubs should be well spaced to break up the fire ladder and keep the vegetation density low.

Except for formal clipped or sheared shrubs, thinning, maintaining size and removing excess leaf litter should maintain shrubs. Vines and ground covers can build up a heavy underbrush of dead leaves and branches which should be removed to lessen fuel for fire. Remove or mow dry grasses, weeds and underbrush. Even in healthy landscapes, the build-up of leaf litter and other debris can give fires a chance to start under porches and decks and on roofs.

Brush and cuttings from landscape maintenance create another fire hazard. This debris should be promptly and legally disposed of leaving a clean, neat landscape.

In addition, be sure to store firewood well away from other combustible materials.

Structural Elements of a Firewise Landscape

When building a deck or patio, use concrete, flagstone or rock instead of wood. These materials do not burn and do not collect flammable debris like the space between planks in wooden decking.

Where appropriate on steeper ground, use retaining walls to reduce the steepness of the slope. This in turn reduces the rate of fire spread. Retaining walls also act as physical barriers to fire spread and help deflect heat from the fire upwards and away from structures. Rock or masonry walls are best, but even wooden tie walls constructed of heavy timbers will work. Put out any fires burning on tie walls after the main fire front passes.

On steep slopes, consider building steps and walkways around structures. This makes access easier for home maintenance and enjoyment. It also serves as a physical barrier to fire spread and increases firefighters' speed and safety as they work to defend your home.

Maintenance

A landscape is a dynamic system that constantly grows and changes. 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 Firewise properties.

- Always keep a watchful eye towards reducing the fuel volumes available to fire. Be aware of the growth habits of the plants within your landscape and of the changes that occur throughout the seasons.
- Remove annuals and perennials after they have gone to seed or when the stems become overly dry.
- Rake up leaves and other litter as it builds up through the season.
- Mow or trim grasses to a low height within your defensible space. This is particularly important as grasses cure.
- Remove plant parts damaged by snow, wind, frost or other agents.



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- Timely pruning is critical. Pruning not only reduces fuel volumes but also maintains healthier plants by producing more vigorous, succulent growth.
- Landscape maintenance is a critical part of your home's defense system.
- Even the best defensible space can be compromised through lack of maintenance. The old adage "An ounce of prevention is worth a pound of cure" applies here.

In case of fire, notify the local fire department immediately. Any delay can result in tragedy.

Maintenance provides fire safety. Over time, plants grow and spread; mulches dry out; leaves and pine needles accumulate. All contribute to the fuels from which a fire grows. Proper maintenance improves appearance and helps protect the structure from wildfire



For more information about the Tennessee Firewise Communities Program, contact the Tennessee Department of Agriculture, Division of Forestry, P.O. Box 40627, Nashville, TN 37204
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