

# Fire and Landscape

All plants are fuel and will burn under the right conditions. The question is: What can we do with our landscape to slow ignition and reduce the chance that fire moves either laterally or vertically - especially near a home?

Creating a defensible space near your house suggests:

- Removing leaf litter and organic debris as a source of fuel.
- Having bare ground or non-burnable materials like boulders and gravel nearest the house.
- Removing all dead wood from trees and shrubs, limbing them up to keep fire from rising vertically, and cutting your grasses low to keep fire from spreading
- Reducing the use of wood mulch to 1-2 inches especially under trees as it's another source of fuel. The wood mulch should be kept moist.
- Moving trees and shrubs at least 10 feet away from the house or other structures.

Most of the information about defensible space was developed as a result of people building homes or cabins in the forest so fire transfer from the ground to trees and then from treetop to treetop is one of the most important factors to eliminate. Fortunately, High Desert as a development is not a forest environment unless you created one in your personal landscape.

Other thoughts about soil improvement and water or energy conservation that go counter to creating defensible space include:

- To build good soil you need to leave leaf litter and grass cuttings on the soil to decompose.
- To control weeds and reduce erosion you should cover bare ground with grasses and plants so weed seed germination doesn't occur and so soil doesn't erode with wind and rain.
- To attract wildlife, you should leave a dead branch or two as a snag, keep branches of shrubs near the ground for shelter, and have taller grasses for nesting.
- To protect trees from drought you should use wood chips (not bark) as a mulch underneath the tree. Trees especially prefer wood chip mulch which acts as a fertilizer when it decomposes.
- To conserve energy, you need to plant shade trees near the house especially on the south or west side and conifers on the north side to slow cold winter air.

From the differing ideas above you can understand that if you want to create a defensible space, you're going to have to make some tough decisions. You need to decide what your priorities are and then make some common-sense decisions about changes you might want to make. In this, knowledge is your friend. What you should take away from this article is how plant choices, location, and cultural practices can affect what you decide.

Some plants have inherent characteristics that either encourage or delay ignition and may slow a burning fire from spreading. Where plants are placed in the landscape also affects the transfer of fire from the plant to nearby structures. And regardless of what a plant's inherent characteristics are, if it is not maintained (watered or pruned of dead wood), it can become a torch.

Because most people have an existing landscape the "selecting the right plant" and the plant location decisions have already been made - unless you decide to create a more defensible space. So let's start

with **cultural practices** that can reduce the amount of fuel in your landscape because this can be done even if you don't make plant or location changes.

1. removing dead plants – always do this or put them in a compost pile.
2. removing dead wood from trees and shrubs – can be removed any time of the year.
3. removing flammable debris (e.g. large leaves, pine cones, and especially pine needles)
4. reducing grass height. Note that some native grasses like blue grama don't like to be cut although you may choose to cut it to a 4-inch height. You can cut buffalo grass to a 3-4 inch height. Most grasses, but especially blue grama may die if the grass is cut too low (aka scalped).
5. thinning twiggy growth or removing lower branches of woody plants. This may keep a fire from rising.
6. Reducing the number of plants through removal of some so there's not as much fuel to burn. The bigger the plants the more important this is.
7. **irrigating regularly** to keep plants vigorous

These are practices you can do now, before a fire begins. Where these practices conflict with soil building or attracting wildlife, you have to decide which is more important to you.

For plant choices you can go to the numerous lists of fire resistant or fire encouraging plants, but some of these lists are anecdotal and not scientific based. And who ever brings the list when going plant shopping? But if we consider **plant inherent characteristic** the choice is easier – only three characteristics to remember. Choose those plants that reduce the risk of starting and spreading fire:

1. **High moisture content** – these plants burn more slowly and less intensely.
  - Herbaceous material (non-woody stems) typically have a higher moisture content.
  - Succulent plants like ice plant contain even more moisture.
  - Deciduous plants have a higher moisture content than conifers both because they have larger less resinous leaves and because for part of the year they have no leaves.
2. **Low growing habit** – plants that are closer to the ground reduce the risk of spreading fire into tree canopies. They have shorter flames and provide less fuel. Choose smaller denser plants under 2 feet in height at maturity rather than taller more open ones.
3. **Lack flammable chemicals** that turn into combustible gases. Deciduous trees do not contain these chemicals, conifers typically do.

**Location, location, location** - you want to reduce plantings near structures, so plant location is also important.

- Planting under air vents allows fire embers to rise into the home – consider using non-flammable materials such as native stone boulders or gravel instead under the vents.
- Keep large trees and shrubs away from structures.
- If you have a perimeter wall and plant material hangs over it, you just moved the fire from outside the wall to inside. Having plant material hanging over your roof makes even less sense. Planting trees and shrubs in islands is one way to move them away from structures.
- Using shorter plants is also a good strategy to keep fire lower reducing what's known as ladder fuels that carry fire from the ground to the tree canopy. Ground cover plants can be used instead of wood mulch, but the plants do need to be well irrigated.
- Consider tree and shrub spacing – give them room and thin the spacing if it starts to become overgrown.

Hopefully this information helps you make some of the tougher decisions. A good source of readable material is this brochure: <https://www.yumpu.com/en/document/read/27530775/choosing-the-right-plants-for-northern-nevadas-high-fire-hazard-/3>

Sources of information on defensible space and fire-wise plants vary greatly. Rely on those that have a scientific basis with known credibility.