



# EVERGREEN TREES NEVER THE

SEVERAL THEORIES TRY TO EXPLAIN WHY BUT  
SUCCESS GENERALLY COMES FROM WORKING  
WITH WHAT MOTHER NATURE INTENDED

Extension offices across the country – especially here in the West – often get requests for help on how to get grass to grow under evergreen trees in home landscapes.

Why don't grass and trees play together?

One theory is the pine needle debris makes the soil so acidic grass can't grow. Wyoming soils are usually alkaline and can neutralize acidic additions (see Interpreting the pH scale page 13). So acidity created by needles is a stretch.

Some believe trees create so much shade they prevent plants from photosynthesizing under their dense branches. This is why we do not see meadows moving into forests, but we do see trees moving into areas where meadows once existed.

## **Shade may be biggest factor**

"Limbing up" is one way homeowners try to deal with this. The lower branches on evergreens are removed, providing more access to get under the tree and mow the grass expected to grow there once sunlight reaches under the tree. Often, this does give grass more opportunity to grow, but it rarely becomes as lush and bright green as the homeowner had hoped.

However, don't limb up without some thought. Removing the lower branches decreases the stability of trees in the soil and makes the process of water and nutrient movement from the roots up the trunk of the tree more difficult because branches serve as pumping stations up the entirety of the trunk. So, after having their lower branches removed, trees struggle to lift water to the lowest permanent branches on the trunk. This in turn makes the overall

# AND TURF GRASS – TWIN SHALL MEET

process of moving water up the tree more difficult, and life processes for the tree become more difficult. Trees can begin to struggle and succumb to stresses after having their lower branches removed.

## Getting to success

So what can be grown under trees? One research project showed soil communities in forests and meadows are pretty different from each other. Meadow soils tend to be more alkaline and dominated by bacteria. Forest soils are more acidic and dominated by fungal relationships. These two factors appear to play a big role in preventing grass from succeeding in areas with evergreen trees.

Woodland gardens is one garden style that can succeed under evergreen trees or in the dense shade of large trees. This style mimics the wildflowers and plants that grow in forests where these trees would be native. A landscape that includes shade-loving plants and plants that typically share forested areas with trees are much more likely to be successful than attempting to grow grass where it really does not want to grow.

Homeowners should be aware the roots of some trees (such as blue spruce) are very competitive for water resources, so these areas may have to be watered more frequently to allow the other shade-loving plants (many of which are adapted to more moist conditions) to thrive.

## Interpreting the pH scale

The pH scale runs from 0 being very acidic to 14 very alkaline, with 7 considered neutral. Each jump in a whole number is a jump by ten times the level of hydrogen molecules in the soil. So a pH of 8 is ten times more alkaline than 7, and 6 is ten times more acidic than 7.

In the case of pine trees, to change the pH from 8 to neutral, the pine needles would have to be very acidic to change the soil a whole lot! Soils also have a very strong buffering action, so any attempts to lower pH may work temporarily, but the pH will generally creep back up to its normal level (alkaline) due to the enormity of the mass of soil in any one location.

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