



Cooler nights and falling leaves signal that fall is here. Pines in the area are starting to change colors too. Knowing the cause of the discolored needles will help to know if it is nature taking its course or if it is a disease infecting your trees.

Across the area, yellow inner needles in pine and spruce have just started to appear. Evergreen needles change color in the fall too, just like deciduous trees. It is a normal occurrence called natural needle drop. The older interior needles of pine and spruce are turning yellow and drop from the tree. The older needles that are lost are usually located closer to the inside of the tree or trunk. Factors that increase the stress on an evergreen can intensify the autumn needle drop. These stress factors can include drought, herbicide injury, root damage, or insect or disease damage.

Like many living things, evergreen needles also have a lifespan. Pine trees hold their needles for 2-3 or more years. Spruce trees hold their needles longer than pines, usually around 5-7 years. After the needles have lived their lifespan, they fall from the tree. Some trees, like the white pine, make it easy to see the needle drop.

The location of the discolored needles can determine if it is natural needle drop or if something else has infected the tree. If the tip of the branch was the only part affected this spring, fungus could be to blame. Cool, wet springs are ideal conditions for fungus, this spring was no exception. The Sphaeropsis tip blight fungus will infect the new growth as it emerges causing it to turn brown and hang on. If fungicides are applied, the best time to spray preventative treatments for Sphaeropsis tip blight fungus is April.

One of the most common pine diseases is also caused by a fungus and can also cause brown needles. Dothistroma needle blight causes reddish lesions found on individual needles. It causes the needle to appear to be half green and half brown on last years' growth and mainly affects the lower half of the tree. Preventative fungicide applications can be made in mid-May and again in mid to late-June.

Pine wilt can also cause needles to change color. If the entire branch, or tree, turns brown and the needles hang on, it could be pine wilt. The cause of pine wilt is smaller than we can see with the naked eye. The pinewood nematode is a very small worm-like organism that attacks the tissues that move water and nutrients throughout the tree. The nematode doesn't travel very far by itself, so it uses a 'friend' to help it move around. Nematodes hitch a ride on pine sawyer beetles and fall off when they reach a new tree to infest. The first symptom is the tree or a major branch will have a grayish green tint to it. As the nematodes progress and multiply the tree turns tan and then eventually brown. One important thing to remember is that the dead brown needles will remain on the tree for a year or more.

One way to prevent needles from changing color next spring is through irrigating now. Moisture helps to promote root growth and reduces winter desiccation injury. Supplemental fall irrigation should be continued, when there isn't precipitation, until close to soil freeze. When air temperatures in winter are above 40 degrees Fahrenheit apply water early enough in the day so it can soak into the ground before temperatures drop below freezing. This will help to avoid the water from freezing on the surface at night when the temperatures drop down. Apply enough water to moisten the soil eight inches deep under the drip line of the tree. Be sure to check the soil moisture before irrigating to avoid irrigating a saturated soil.

Proper identification of the culprit behind the color changing needles can help you determine if this is nature taking its course or if you have some action to take in the future.

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