



Natural Needle Drop

When the needles on a pine tree turn yellow, the first reaction is often that the tree has a disease or insect problem. But, evergreen needles do not stay green forever. The older, inner needles discolor and naturally drop off after one or more years, depending on the species of pine.



This white pine is dropping second-year needles because of extensive drought stress. It is a natural process for pines to drop 3rd, 4th, or 5th year needles, depending on the plant.

Some years, the needles on a pine will yellow and drop unnoticed. In other years, a large number of needles yellow at the same time in late summer or early fall, making for a striking display. Because the condition is triggered by the weather and other stress factors, many evergreens are likely to show symptoms at the same time.

White pines are the most dramatically affected trees in southern Illinois. This species typically maintains three years of green needles in the summer. But during a year with stressing weather conditions, the white pine may only maintain the current year's needle growth. Second- and third-year needles turn yellow throughout the tree.

Sometimes, the last two years of growth will remain green with the third year's growth turning yellow. The tree will appear particularly unhealthy if the yellowed needles outnumber the green ones of the current season. All of this is a part of the natural needle drop that occurs in pines.

Each species of evergreen tends to keep its needles for a defined length of time. Austrian and Scotch pine usually retain needles for three years. Red pine will often retain green needles for four years before the needles yellow and drop.

Arborvitae needles usually turn brown instead of yellow as they age. This plant will hold needles much longer than pine.

Yew needles turn yellow and drop in the late spring or early summer instead of fall.

They usually drop third-year needles unless stressed. It is not uncommon in tight clay soil for a yew to exhibit prominent yellow needles in the spring. These are usually second-year or even third-year needles that yellow and drop due to plant stresses.

Spruce and fir needles also yellow and drop with age. But since these trees retain their needles for several years, needle drop is often not visible.

Be careful not to confuse natural seasonal needle drop with various insect and disease problems that might be life threatening to the plant. The fact that needle drop is a seasonal occurrence and that the symptoms are distributed throughout the interior part of the tree helps distinguish natural needle drop from other problems.



There is no way to control or reduce natural needle drop in an evergreen plant. Keep evergreens healthy by following good cultural practices. It is a good practice to irrigate evergreens thoroughly going into the winter. Since evergreens maintain needles year round, the plant continues to lose moisture in the winter. An evergreen plant in dry soil is more prone to winter injury through desiccation. Also, continue to examine evergreens on a regular basis for evidence of disease or insect problems.



College of Agricultural, Consumer and Environmental Sciences

University of Illinois • U.S. Dept. of Agriculture • Local Extension Councils Cooperating
University of Illinois Extension provides equal opportunities in programs and employment.

The information in this fact sheet is for educational purposes only. References to commercial products and trade names do not constitute endorsement by the University of Illinois and do not imply discrimination against other similar products that are not listed.