

Seasonal Needle Drop

September 2020

Every fall, when the days are getting shorter and the night temperatures are falling, the inner needles of conifers start to turn yellow and are dropped over time. This is a natural process known as seasonal needle drop. The amount of needle loss is dependent upon species, temporal factors and environmental conditions (Figure 1). The occurrence of seasonal needle drop is often mistaken for disease or insect damage.



Figure 1. A. The needles on this pine persist for three growing seasons. The tree is shedding needles formed in 2018. Photo: gardenprofessors.com. Edited by Eva Grimme; B. Yellowing can look dramatic: Photo: Jim Chatfield, Ohio State University.

Symptoms:

Seasonal needle drop typically consists of gradual yellowing or browning and eventual loss of older (Figure 2A) needles from the top to the bottom of trees. Some species are affected more than others. Needles that drop due to age may have some spots and blemishes, however they do not display typical symptoms of disease or insect damage. Diseases often cause death of younger needles, death of branches, or thinning of needles on the lower branches.

White Pines:

White pines are some of the more seriously affected trees. Third, and sometimes second year needles yellow and fall seasonally throughout the entire tree (Figure 2B).

Austrian and Scotch Pine:

These trees typically lose only fourth year needles. Symptoms are not nearly as dramatic as in white pines.

Cedar:

Cedars often display browning of leaves and flagging of older branchlets (Figure 2C). Eventually entire branchlets are shed.

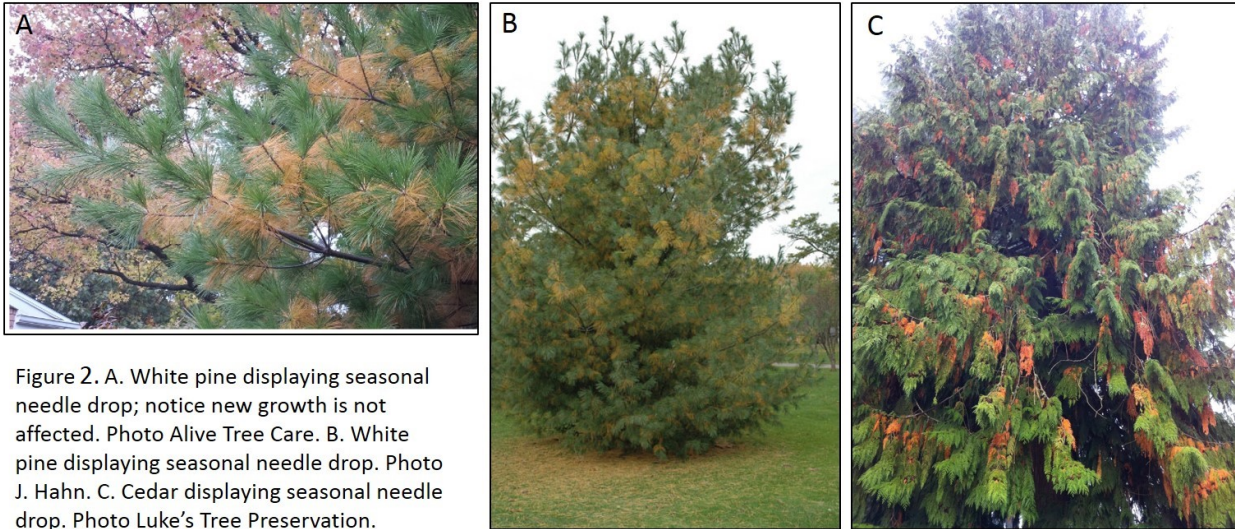


Figure 2. A. White pine displaying seasonal needle drop; notice new growth is not affected. Photo Alive Tree Care. B. White pine displaying seasonal needle drop. Photo J. Hahn. C. Cedar displaying seasonal needle drop. Photo Luke's Tree Preservation.

Spruce and fir:

Spruce and fir generally maintain many years of growth. Seasonal needle drop is typically not very noticeable and is often only visible if looked for on inner branches.

Larch and Tamarack:

These trees lose all of their needles every fall.

Management:

Management for seasonal needle drop is not necessary. As long as the yellowing and needle drop is restricted to older growth and is not extreme, it is likely not a problem. Maintain tree health by following good cultural practices.

References:

<http://www.ipm.iastate.edu/ipm/hortnews/2006/10-4/evergreens.html>

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http://msue.anr.msu.edu/news/fall_needle_drop_a_natural_phenomenon_in_conifers

Sincerely, Eva Grimme ([contact Eva](#))