



Evergreens

Disorder: Seasonal Needle Drop

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Symptoms and Effects

Contrary to popular belief, evergreen foliage does not remain attached indefinitely. Older, inner needles discolor and drop off after one to several years, depending on the species involved. Sometimes the drop occurs slowly. On other occasions, large numbers of needles yellow simultaneously in late summer or early fall, creating a very striking appearance. Because the condition is triggered by weather and season, many evergreens are likely to show symptoms at the same time. If you are not familiar with this phenomenon, it could cause you a great deal of concern.

Each species of evergreen usually keeps its needles for a definite length of time.

White pines are the most dramatically affected. This species typically bears three years' needles in summer and two in winter. However, very vigorous leaders or laterals may, by November of any given year, have only one year's needles still attached, and they may not extend all the way back to the first node. Matured white pine needles turn yellow throughout the tree. The tree will appear particularly unhealthy when these yellowed needles outnumber the green ones of the current season.

Austrian and Scotch pine usually retain needles for three years. Red pine ordinarily drops its needles in the fourth year.

Arborvitae (white cedar) needles usually turn brown rather than yellow when they age, and they often remain attached much longer than matured pine needles. Yew needles turn yellow and drop in late spring or early summer of their third year.

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 unless you really look for it on inner branches. These are general patterns of needle drop, and you should remember that considerable variation exists from tree to tree and from year to year.

It is important that you do not confuse this natural seasonal needle drop with various disease and insect problems that can seriously reduce the vitality and esthetic value of the tree. The fact that it is a seasonal occurrence and that the symptoms are distributed generally throughout the interior portion of the tree are helpful clues to proper diagnosis, but you should examine the needles carefully if there is any doubt. Needles that yellow and drop from age may have occasional spots and blemishes, but nothing more. Old needles sometimes show mottled brown coloration from invasion by saprophytic (non-disease) microorganisms. Since several fungal diseases in Wisconsin can cause severe needle discoloration and drop, you should be alert to their possible presence, especially if spots are developing on the current



The yellow foliage of this white pine results from the aging of the previous year's needles. Note that the needles are uniformly yellow and free from fungal spots, and that current season growth at the tip of the branch is still green and free of blemishes.

season's needles. Some forms of herbicide injury can also be involved in needle yellowing and drop.

Mites often cause non-seasonal needle drop, particularly of spruce. Generally, needles are off-color, becoming yellowish or brown. A light webbing is associated with heavy infestations. If you suspect mites, hold a sheet of

white paper under a branch and tap the branch sharply. The mites will fall to the paper where they can be seen.

Needle miners of spruce result in clusters of dried, mined needles, usually webbed together. They have also been found affecting several arborvitae in Wisconsin. Aphids may cause severe yellowing of white pine needles, particularly new needles.

Cause

Physiological

Control

There is no control required or possible. However, you may take precaution to prevent injury to the younger foliage in order to maintain tree vitality. For instance, it is a good practice to irrigate evergreens thoroughly before the ground freezes in order to minimize the possibility of winter injury through desiccation. Examine ornamental evergreens periodically for evidence of insect and disease problems.

This publication is slightly revised. Earlier edition may be used.

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