

News Article

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Evergreens Aren't Forever Green

Several homeowners have recently called the Purdue Extension office very concerned that their pine trees were dying, prompting me to address this issue for everyone. Homeowners are seeing needles turn yellow to brown, and fall off the tree. Is there cause for concern?

Evergreens are not forever green. By this I mean that eventually the oldest needles die and fall off the tree. Of course, the newest needles are always present, and in that sense, evergreens *are* evergreen. Interestingly, a few cone-bearing trees lose their needles every single year!

Dr. Rosie Lerner, consumer horticulture specialist at Purdue University, recently wrote about this phenomenon. "Evergreens provide green color all year long, but that doesn't mean that the individual needles live forever," she said. "Evergreens shed their older needles to make room for new growth, but what makes these plants evergreen is that they retain some foliage all year long instead of shedding all of the leaves at once."

Before we proceed further, let's take a moment to understand some tree terminology. An *evergreen* is a plant that retains green foliage all year long. Mostly we think of needle-bearing trees like pines or spruces as evergreens. But, we also have broadleaf evergreen shrubs, like rhododendron, boxwood and holly. A *conifer* is a cone-bearing tree or shrub, however, not all cones look like typical pine cones. For example, the cones of an Eastern redcedar look somewhat like a pale blueberry. *Deciduous* trees and shrubs lose all their leaves or needles every year. Examples of deciduous conifers include bald cypress, dawn redwood and American larch (tamarack).

Evergreens like pines, spruces, firs, arborvitae, and hemlock only retain the newest years' needles (2 or more years), and naturally lose their inner (oldest) needles on established trees each year.

"Conifer needles have varying life spans, depending on the species and environmental conditions," said Lerner. "White pine and arborvitae needles live for 2-3 years, Austrian and Scots pine needles live for 3 years, red pine needles live for 4 years." She said that firs, Douglas-fir, and hemlock needles last about 3-4 years. Spruce needles live 3-10 years depending on the species, with most lasting about 5 years.

Needle drop is not always in the fall season. "The older needles of yew shrubs will turn yellow and drop in late spring or early summer," said Lerner. "Broad-leaved evergreens such as rhododendrons drop their 2- to 3-year-old leaves in late summer and early fall."

Some species may exhibit gradual needle drop, while species like white pine and arborvitae have a very noticeable needle drop each fall, because the color change is striking and all at once. “In autumn, white pine will drop many of their 2-year old needles all at once, which can be quite alarming if you don’t realize that it’s perfectly normal,” said Lerner. “Arborvitae also has a very noticeable needle shed as older branchlets turn brown and remain on the tree for a while before shedding.”

Lerner said that hot, dry weather can cause many plants to drop needles early. Inner and lower needles are the oldest. “So, if your evergreens appear to be losing large numbers of needles, check to see if there is a uniform pattern of which needles are dropping,” she said. “And, if it is a white pine or arborvitae in autumn, they are most likely just doing what comes naturally.”

To view Lerner’s original article, find it at Purdue Landscape Report, <https://www.purduelandscapereport.org/>.