

EVERGREENS – BROWNING IN THE FALL

This is a natural process that occurs before winter.



Normal needle drop on hemlock during third or fourth summer



Normal leaf drop on holly in spring of second year



Normal needle drop on white pine in fall of second year

The yellowing and browning of needles in the fall is a normal occurrence on pine, spruce, cedar and juniper. The discoloration, which affects the older needles closer to the trunk, can begin in early August and continue until into the fall or over the winter months. In the spring, a large amount of needles may be noticed on the ground underneath the plants. Most conifers do not keep their growth of needles on their branches while spruce keep up to seven years growth. Occasionally, plants will retain their needles for several years before dropping them. The amount of natural shedding can be greater if the trees or shrubs are placed under any stress such as drought, flooding, insect or mite attack. Needles that are dropped are not replaced. This is why evergreens are bare of needles in the centre of the plant near the trunk.

The carpet of shed needles beneath an evergreen is a familiar sight – often there are several seasons of needles on the ground below the tree! As a result of both natural and environmental stresses, evergreens shed their older needles. Though the loss of your evergreen's needles may at first be disconcerting, the period of natural leaf fall for the species must be taken into consideration. However, if the trees are shedding the current season's needles, or if the current season's needles are turning brown, it may mean that the plant is suffering from one or more unusual conditions.

Evergreens are not "evergreen" and will drop their needles under conditions of stress. In conditions of natural leaf drop, the needles usually last around three years. Juniper and Douglas fir needles last for 10 or more years, while Bristlecone pine needles can persist up to 30 years. Arborvitae and white pine needles turn brown or yellow and drop in the autumn of the second year, and Taxus (yew) needles commonly turn yellow and drop in late spring or early summer of the third year. Broadleaved evergreens also shed their leaves. Leaf drop usually occurs in the summer or early fall when the leaves are two to three years old, following the maturation of the current season's growth. Leaf and needle drop may be induced by several environmental factors.

The most common of these are excessive soil moisture and drought. A lack of potassium (K) in the soil may result in the loss of older leaves, causing a denuded look. Other environmentally detrimental effects include various human and animal activities, air pollution, attack by insects, and disease infestation. An excess of soluble salts in the environment, especially those of de-icing salts used during the last 10 years along the highways, has also caused a large amount of desiccation in arborvitae, hemlock, and both white and red pine.