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**Current Plant Damage May Be a Result of Plants “Sweating”**

Several people have called this week concerned for their hollies and other evergreen shrubs, noticing that the leaves are presenting with dry, crispy margins and tips, and excessive leaf drop. The reason for this? The leaves are sweating. Leaves have pores called stomata that open when the plant needs carbon dioxide to photosynthesize. While these pores are open, water can evaporate out of them. Ideally, this evaporation is limited by the humidity in the general atmosphere, and the humidity immediately surrounding the leaf when it loses water. Higher humidity makes it harder for more water to evaporate, which limits dehydration. However, if winds are too dry, they carry away any built-up humidity, making it easier for more water to evaporate out of the leaf. High and dry winter winds will evaporate so much water out of the leaves that they will desiccate and fall off of shrubs. This is most commonly seen on evergreen shrubs like hollies and boxwoods. The tips and margins are the first parts of the leaf to turn crispy, since they are the farthest away from the petiole, where water is delivered. While this may be visually alarming, this is a normal defense reaction from the plant, and the plant should pull through its defoliation, pushing out new growth in the spring.

Many foliar diseases will have similar impacts on the plants that catch them. Leaves are the primary way that the plant in question will produce its energy, but are also the most vulnerable to pathogens. Their tissues are much more permeable to pathogens than other parts of the plant like stems, especially if the plant is a tree or shrub with woody bark. Ninety percent of all plant diseases are caused by fungi, and barring a few exceptions like wilts and Southern blight, which are vectored in insects and the soil respectively, nearly all fungal diseases will spread via water and affect soft tissues exclusively. For trees and shrubs, as long as the pathogen does not affect the vascular tissue, the plant should rebound, even if the plant loses all of its leaves. However, any disease your plant catches is not something to ignore. While plants can recover from one or two infections, multiple recurring infections can throw the plant into a downward spiral of mounting stress and depleting resources. You can help your plant minimize potential stresses by ensuring that the soil is well-fertilized, that the plant is getting enough water, and controlling the disease if feasible.

A few things to keep an eye out for when diagnosing a potential disease are the timing and the symptoms. Some diseases will only start to manifest at certain points in the year. Timing can also impact the severity of a disease. Anthracnose affects sycamore trees so early in the spring that any leaves that fall will be replaced before the heat of the summer, while maples are affected later in the spring and are less likely to push out new leaves in time for the summer. The symptoms are just the outward appearances of the infection. Sometimes the pathogen will be visible along with the symptoms, while other times it will be hidden. A close inspection of the afflicted plant will help narrow down potential causes of your problem and the ways you can keep it from happening again.

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