Problem: Leaves on Trees Don't Drop in Fall (Marcescent Trees)

Plants Affected: Wide Variety of Woody Plants

Description: A tree usually prepares for winter by breaking down the chlorophyll in the leaves, reabsorbing nitrogen and other nutrients, and developing an abscission layer at the base of the petiole. The reabsorbing process is important to conserve nutrients, while the abscission layer (a layer of cells with weakened cell walls) allows the leaf to detach easily. A tree without leaves is much less likely to suffer branch breakage and other damage from ice glazing or a heavy, wet snow.

Marcescent means "to wither without falling off". Early freezes can kill the still-green leaves on the tree, thus interrupting the normal acclimation process. Trees showing signs of marcescence are not necessarily harmed. It all depends on whether the underlying wood was damaged. Watch trees affected by marcescence the following spring to see if additional damage has occurred. Also, if an ice storm or wet snowfall occurs before the leaves have fallen, there could be significant branch breakage on those trees. Pin oak often holds its leaves most of the winter, so unusual breakage should not be seen in this species, due to the strength of its wood, and the right-angle branching pattern of most pin oaks.

Recommendations: Unfortunately, there is really no treatment for the marcescent condition. Maintenance pruning to maintain a straight trunk and a sturdy, wide-angled branch pattern will make a tree less prone to breakage whenever storms occur.

References:
1. Why Do You Just Keep Me Hanging On?, Forest Resources, Penn State Extension

Last Updated: 11/6/2023

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