

inSTALLations

September 2008

Plant Parade Fall Color



As days get shorter, deciduous trees prepare for winter by dropping their leaves. Trees lose their leaves to help keep them healthy in this cold time of year. Chemicals

used by trees during photosynthesis are ineffective in cold temperatures, so they cannot make food in winter. Trees also lose a lot of water through leaves by a process called *transpiration*. When water freezes, trees can't replace all this lost water, so instead they drop their leaves.

Before trees drop their leaves, they create a beautiful show we can enjoy. Yellow, orange, and brown

carotenoid pigments in leaves are masked by green **chlorophyll** all summer.

When autumn comes and trees stop producing chlorophyll, rich colors are revealed. Red and purple colors, created by

anthocyanins, are only produced in fall. These chemicals help some trees recover nutrients left in the leaves before they fall off the tree.



Nature Notes

The best fall colors are created through ideal weather conditions including a warm

wet spring, a summer that is neither too hot nor too dry, and a fall with warm sunny days and cool nights.

Trees take their cue to prepare for winter, not by the change in temperature, but by the shortening day length.

The waxy cuticle, or outer coating, on evergreen needles helps them retain water and allows them to keep their leaves all winter long.



Some trees, such as oaks, do not drop all of their leaves. Although their leaves are dead and no longer making food, they won't fall off the tree until spring.

Visit the Information Desk for program information.