

**What Colors you can expect the Leaves to Turn this Fall**  
**By Hailey Saylor**



If you were to ask someone what their favorite season was, there is a twenty-seven percent chance that they will say it is autumn, according to a June 6-8 Gallup poll. And if you were to ask them why, they'd most likely mention the beautiful colors of the plants throughout the season. Changing leaves is something we all look forward to whenever the first cold puffs of fall chills the air. The splashes of red, orange and gold make the forests look like surreal paintings. But why does it happen?

In leaved plants, the cells of the leaves have a special organ that is responsible for creating their food supply, the chloroplast. In the chloroplasts, a pigment known as chlorophyll is developed. Chlorophyll is what gives trees and shrubs their green colors. Chlorophyll plays a key role in the food-making process. So, in the fall, when the shorter periods of sunlight and colder temperatures impede the process, chlorophyll breaks down, which makes a leaf lose its green color. What color is left depends on other chemical reactions and present substances within the plants. Xanthophylls cause a yellow color, beta-carotene makes orange, and anthocyanins produce reds and sometimes purples.

The vibrancy of the leaves' colors depends on the climate of the season. Cooler temperatures above freezing will produce brighter shades of red in trees like the maple, but an early frost dims the color. Days without much sunlight, like rainy or overcast days, will increase the intensity of the leaves' shades.

In Ohio, the most common genus of tree is the Oak. Plenty of oak species exist across the state, but the major oak groups are the White Oaks and the Red Oaks. Some oaks develop dead brown leaves in the fall -- some don't even shed these leaves -- but others produce a wide variety of colors. Chestnut oak, which can be seen in eastern Ohio among the Appalachians, turns yellow and brown due to carotene in its leaves. Pin oak is more likely to be seen around the Carlisle area, and its leaves tend to turn bright red with less brown spotting than others. Other oaks exhibit similar colors, however, most exhibit a lot of brown.



*An old pin oak, looking red as ever in the autumn weather.*

There are many other tree species in Ohio. Elms turn yellow or even a yellowish-purple. Birches also develop beautiful displays of gold. The Ohio Buckeye turns yellow, amber or even red. Maples show a stunning transition of colors, from green to yellow then to orange and finally a deep scarlet. Hickories often turn a bright ruby red. Willows are yellowish-green, and are usually the last to lose their leaves. Dogwoods have pink or red leaves.

Occasionally, even conifers see change in autumn. Evergreens are known to drop a number of their needles in the fall weather, but they usually stay green. However, some trees, such as Scots pine, see their needles turning yellow. Many junipers develop a purplish hue. Tamaracks -- also known as the American larch -- and Bald cypresses lose all of their needles in the fall.

Even some bushes change for the season. Cutleaf sumacs can produce leaves of almost any warm color. The American cranberrybush turns a wonderful shade of scarlet and bear berries of the same color. A small tree known as Black chokecherry has red leaves and black fruit in the fall. Burning bush's leaves become a blazing flame color.

Although it may seem bland, the quaint state of Ohio has plenty of beauty to offer in the form of its autumn foliage. Next time you're looking for something to brighten up your garden or your yard, keep these plants in mind. It'll give you something beautiful to look forward to next time autumn rolls around.