

Fall Leaf Color

By Larry Caplan, Extension Horticulture Educator, Vanderburgh County, IN

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“When’s the best time to see the fall leaf color?” I was asked the other day.

That’s not an easy thing to answer, because fall leaf color is based on so many variables. As the days get shorter and cooler, trees produce less chlorophyll. This allows other pigments that have been present all summer, but masked by the green chlorophyll, to show through.

“Yes, but when’s the best time to see the fall color?”

Well, it depends on the weather. If the days remain sunny and warm, chlorophyll will continue to be produced, and the green color will remain. As the weather cools, the carotenoid pigments that are responsible for the yellows and oranges will begin to show through. This process is what gives the brilliant yellow color to Norway maples, ash, yellow poplar, and many other trees.

“So, you’re only going to have yellow fall color this year?”

No, not necessarily. Anthocyanins are another pigment, which produce the pink, red and purple of sugar and red maple, sassafras, white oak, and burning bush. Unlike the carotenoids, which are present all summer, the anthocyanins only form in the fall as the sugar content of the leaves increases.

“Well, is there going to be red color? And for how long?”

Again, that’s difficult to say, because it depends on weather. Fall weather conditions favoring formation of bright red autumn colors are warm sunny days followed by cool, but not freezing, nights. Rainy or cloudy days with their reduced sunlight can decrease the intensity of autumn colors by limiting photosynthesis and the sugars available for anthocyanin production.

“You mean, the rain’s going to wash out the red color?”

Not really. Overcast conditions reduce light intensity, which in turn reduce sugar production and the creation of anthocyanins, which make the reds. Heavy rains and high winds can knock the leaves off early, cutting the fall color show short. Freezing temperatures can reduce the brilliance of fall color by killing or injuring the leaves, halting photosynthesis and other processes.

“Fascinating. Really. But why won’t you tell me when the fall color will be best?”

Because I can't predict the weather. The best I can offer is to use the internet to get reports on the progress of fall color as it changes across the country. The Great Smoky Mountains tourist page has a fall color prediction map for the country: <https://smokymountains.com/fall-foliage-map/> . Their map currently shows that New England and the upper parts of Michigan and Wisconsin are at or nearing their peak fall color, while we here in southern Indiana have minimal to no change yet.

Brown County State Park has a leaf cam set up, so you can actually see what the color situation is right from your home computer: <http://www.browncounty.com/leaf-cam> .

"I don't like computers, and I don't care about those other places. Just tell me when..."

Two o'clock in the afternoon. On a Tuesday.

My caller thanked me and hung up. I just smiled, because I hadn't specified WHICH Tuesday...or where...