This year's fall color extravaganza has potential for greatness

THE JOURNAL STAFF

CLEMSON — Despite stubborn summertime drought conditions in the Southeast that plagued many of the places favored by leaf seekers, it remains likely this year's fall foliage season will be good, and in some locations, potentially spectacular.

In regions inflicted with severe drought, the leaves might turn brown and fall prematurely. But in the areas affected by more moderate drought, the quality of leaf color might actually benefit from the relative lack of rain.

"Summertime drought can be good or bad. If it's too severe, the leaves might drop before color has a chance to fully develop," Clemson University forest ecologist Donald Hagan said. "But moderate drought can be a good thing. A little bit of stress prompts earlier fall color development, condensing the season and encouraging more tree species to peak almost simultaneously. This produces a rich palette of colors — yellows, oranges, reds and purples — in the same places at the same times."

Early October should be prime time on the higher elevations of the southern Blue Ridge Parkway. Given this year's weather conditions, leaf seekers might want to make a test run the last few days of September, just to play it safe and get a lay of the land.

As always, the color will move its way downward — about a thousand feet of elevation each week — throughout the month, finally peaking in the Clemson area and much of the Upstate in late October and very early November. Soon after that, it will coat the landscape with crinkly dead leaves and then vanish until next year.

Now is the time to keep your fingers crossed. The weather that is yet to come is as important as the weather that has already left its mark. Over the next six weeks or so, fall foliage is at Mother Nature's mercy. If our area is lucky enough to enjoy typical fall conditions — a series of mild, daylong cold fronts followed by several days of bluebird skies and pleasantly cool temperatures — then the 2016 fall foliage season will still have the potential to compete with the best in recent years.

But severe weather, such as windy storms or early frosts, could play the role of spoiler.

"Last year had the potential to be the best season in a long time. The summertime weather was just slightly dry. And we had a nice, slow tapering off starting around mid-September," said Hagan, who is an assistant professor in the forestry and environmental conservation department at Clemson. "But in early October 2015, the superstorm that drenched most of the state reached all the way to the mountains, with heavy rains and 40 mile-per-hour winds.

"To make matters worse, this was followed by gray, damp weather for several more days. That pretty much blew the leaves off and put an end to the color, especially at our higher elevations. But at lower elevations, we still had really good fall color last year. So that shows you the importance of the effects of weather — not just overall but location by location."

Deciduous trees, which produce and drop leaves in a single year, invest a significant amount of energy in their foliage throughout the spring, summer and early fall. As the buds break in spring, young leaves leap to life and begin to use sunlight to synthesize foods from carbon dioxide and water. As a valuable byproduct, they also release copious amounts of oxygen into the atmosphere.

At the fade of summer, the days become shorter and by early fall the leaves have been tattered and blown about, which makes them less efficient at producing food. The shorter days also provide fewer hours of sunlight. Trees reach a point where the cost of maintaining their leaves exceeds the benefit. This triggers the final stage of the seven- to eight-month lifespan of leaves.

Trees recycle their nutrients downward, while also halting production of chlorophyll and causing the green pigment in their leaves to fade and eventually disappear.

When the green is gone, the yellow and orange pigments that were previously obscured — but always there — are gloriously revealed.

Reds and purples are a different story and don't exist naturally in leaves. Instead, they are produced by chemical reactions to bright sunlight, which is why the brilliant, cloudless days following mild cold fronts are so invaluable.

"Oranges and yellows are nice, but reds and purples are the icing on the cake in terms of enriching the spectrum of colors," Hagan said. "When you're admiring a wide mountain vista, keep in mind that you're looking at a tremendous diversity of trees. Not all of them will produce reds and purples. The maples and oaks do. But yellow birches and buckeyes go straight from green to a nice pastel yellow. And don't underestimate the contribution made by the fruits and blooms of bushes and wildflowers, which can be as impressive as the trees."

Hagan, who has been making fall foliage predictions for Clemson University for four years, has followed in the prestigious footsteps of fellow forest ecologist Vic Shelburne. One thing that Hagan and Shelburne have always emphasized is that leaf seekers should turn their sojourns into high-spirited adventures. Just because one overlook doesn't offer a particularly attractive vista doesn't mean that it's time to call it a day. The next one, just a few miles down the road, could be fabulous.

"Enjoy the cooler weather. Make it a game. Have fun. Do some exploring," Hagan advises. "The hunt — and the uncertainty — is the most enjoyable part, in my mind. And oftentimes, the best colors you'll see aren't always at mountain vistas. Sometimes it pays to get off the beaten path. A tree-shrouded country road can also take your breath away, with beams of light piercing the colorful canopy like lasers. The view from a valley can be as amazing as the view from an overlook.

"So don't give up the chase too easily. If you take the time to search for beauty, you'll appreciate its splendor even more once you find it."

Over the next two months, Hagan and his dendrology students plan to regularly post photographs of fall color from the Upstate, as well as from the mountains of northern Georgia and western North Carolina at instagram.com/haganlab.



From an overlook on the southern Blue Ridge Parkway, fall colors were ablaze on Oct. 16, 2015. COURTESY OF CLEMSON UNIVERSITY

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