

Enjoy the change in the Fall weather



By Doug Carter, Rankin County Extension Agent

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Autumn began September 22. This time of the year is a glorious transitional season between the hot summer heat and the cold damp days that are ahead, which we experience in the winter months. The cooler nighttime temperatures in September were telling us to get ready, there is a change coming.

Changes in the weather are just a few of the changes, even though other changes are related to the weather. In the world around us, living things are getting ready for winter and getting about the business of finishing their summer activities. Some are in the process of getting ready to travel to warmer climates, while others are putting on their winter coats and storing food for winter.

Trees also transition from summer to winter. There is a process called photosynthesis, which is where chlorophyll in the trees leaves forms sugars and starches. The process occurs by absorbing the sun's energy and then using it to convert carbon dioxide and water into food.

The green pigment of chlorophyll gives leaves their green color. Green



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chlorophyll is not the only pigment found in trees. There are also yellow, orange and purple pigments, or whatever color the leaves change to in the fall. However, the leaves are so full of chlorophyll in the summer, it washes out the other colors.

While leaves are all green during the growing season, they come in different shades of green. Some trees have leaves that are deep, dark green, while others have leaves that are light, nearly lime green. Part of this is due to the presence of other pigments, which chlorophyll is covering up. Each of these pigments serve various functions in the leaf. Some pigments, like carotenoids, give leaves the orange or yellow color. An-

other group of pigments give trees a red color.

In the fall, as the days get shorter, the leaf gets exposed to less and less daylight. This, along with cooler temperatures, is a signal for the tree to get ready for dormancy. The tree will begin pulling as much of the important rarer nutrients from the leaf as it can, so they won't be lost with the leaf when it falls to the ground. Nitrogen is one of the most important nutrients. Deciduous trees retrieve as much nitrogen as possible because of the limited supply.

Chlorophyll is full of nitrogen. It is broken down and removed from the leaves, leaving other pigments that show us the leaves' true colors.

In the fall, trees such as dogwoods, red maples and persimmons have a red and purple fall leaf color. These colors are caused by another group of pigments (anthocyanins). Unlike chlorophyll and other summer pigments, these pigments are made only in the fall and become visible as they build up in the leaves. Brown leaves result from pigment mixing or leaf death.

Just like some animals hibernate until spring, trees become dormant until spring. Starches and sugars made during the summer months go down to the root system and are stored there and are used to keep the tree alive until spring. When temperatures rise and days grow longer in the spring, trees will move the food energy from their roots to their branches to start the growth of new leaves for the new growing season.

Fall is such a beautiful season of the year. Please take some time to walk away from your computer and TV, leave your cell phone in the house, and get outside and enjoy this time of year.

Sources: Butch Bailey, *The Overstory*, "Why do Leaves Change Color," October 2016; and Dr. Leslie burger, *Extension Outdoors*, "New Season Brings Fall Color Changes, October 2016.

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(L to R) front row, are, Jenny Harrell/ Manager, Amy Bailey, and Jennifer Quick; and (L to R) back row, are: Cindy Jo Weimer, and Brian Hall/Owner.

These are our fall drinks!

We have

- ☕ **Free Falling - Apple Pie Inspired**
- ☕ **Smashing Pumpkins - Pumpkin Spiced**
- ☕ **Breakfast at Tiffany's - Maple Pancake Flavor**

We will have these through November.



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