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Woodlot Wisdom

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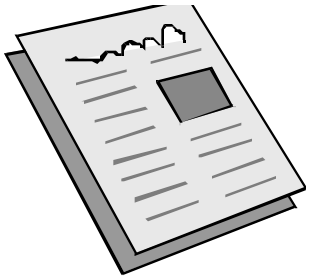

ARTICLE FROM THE CHAIR

WHAT IS A PROFESSIONAL FORESTER?

By: Tom Kain, Area Procurement Forester, Huber Engineered Woods

When the term forester is used most people think of "Smokey Bear" or the person they meet when visiting a National Park. Although those people may have a forestry background they are generally not professional foresters.

A forester is a person who has graduated from a college or university forestry program. The curriculums of these programs cover many natural resource subjects including: ecology, wildlife, geology, botany, forestry, fire management, insects, and more. The core of a forestry education is forestry, which is defined by the Society of American Foresters as, "the art, science, and practice of creating, managing, using, and conserving forests in a sustainable manner to meet desired goals, needs, and values. A forester is "a uniquely qualified professional who cares for the trees and forests".

Foresters have a unique long term perspective when it comes to forest activities. For example, when a forester sees a clearcut their vision is of renewal, rebirth, forest succession, new wildlife and plant habitats. When a non forester sees a clearcut they commonly perceive destruction, because their perception is short term. A forester looking back at history knows that in middle and lower Georgia the lush forests of today, that provide so many opportunities, were in the late 1800's, cotton fields. In Oregon, 240,000 acres of forest that were devastated by the Tillamook fire of 1933, and were believed so degraded by that fire that the lands were returned to the state government by the owners rather than continuing to pay the taxes. These lands have, for years been managed by the State of Oregon to provide hiking, fishing, solitude, clean water, timber harvesting, and income for the local governments/communities. Another more recent example of the power of nature is the 1980 eruption of Mt. St. Helens. A terrible event that only 25 years later, supports a thriving forest on timber company owned land. A forester realizes that forests change over time either by the hand of man or nature and that with proper planning and active management can be reborn, nurtured, and sustained.

A forester, working at times with other natural resource professionals, designs and implements management plans to achieve the goals of the landowner. They use the knowledge gained both formally and from working the land throughout their careers, to craft long term plans. These plans reflect a concern for the current environment, its long term health, and a desire to protect /enhance the forest through management activities.
So a forester is much more than "Smokey Bear". They are entrusted with the long term sustainability of forests. Today there are more forested acres in the United States than in 1900 thanks in part to foresters and nature.

Learn More about the Forest Resources on the Cumberland Plateau and Mountains

Wayne K. Clatterbuck, Professor, Forest Management & Silviculture, University of Tennessee

With the recent controversies expressed about forests in the Cumberlands of Tennessee, particularly with the divestiture of many forest industry controlled lands, southern pine beetle problems, increased urban development and parcelization of forests; and considering that more than 70 percent of these forests are family owned, a conference entitled "Scientific Foundations of Conservation Planning in the Cumberland Plateau and Mountains" will be held November 13 and 14, 2007 in Knoxville, TN at the UT Conference Center. The conference objective is to identify, summarize and evaluate scientific information that is highly relevant to conservation planning in the Cumberlands.

The Conference Steering Committee includes representatives of Oak Ridge National Laboratory, The Nature Conservancy in Tennessee, University of Tennessee – Knoxville, USDA Forest Service Southern Research Station, and National Council for Air and Stream Improvement. The number of conference participants will be limited by the capacity of the meeting space. Registrations ($75) will be accepted until the capacity is filled. The conference program and registration information are posted at http://www.ncasi.org/Programs/Events/Detail.aspx?id=122

If you are interested in the past, present and future of the forests in the Cumberlands, take a look at the conference agenda and plan to attend. For more information, contact Wayne Clatterbuck at 865-974-7346 or e-mail at wclatterbuck@utk.edu.

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Changing Colors of Leaves

Wayne K. Clatterbuck, Professor, Forest Management & Silviculture, University of Tennessee

Differing shades of red, yellow, orange and purple. Autumn in full color. What triggers the color change? What color or colors do each species of trees turn? What causes the variations in color?

The factors that influence autumn leaf color are shorter day lengths, weather (primarily cooler temperatures and less moisture) and changing levels of leaf pigments. The only constant factor from year to year is the shortening day length. days become shorter and nights grow longer, biochemical processes in the leaf initiate changing leaf color. All the other factors vary annually, making the prediction of autumn color unreliable.

What causes the color? Several pigments in leaves are responsible for color: chlorophyll, carotene, xanthophyll and anthocyanins.

Chlorophyll is the pigment in chloroplasts of plants that reflects green light. Plants use the energy absorbed by chlorophyll in photosynthesis to produce food for plant growth and development. Chlorophyll is continually broken down during photosynthesis and being replenished by the plant.

Carotene and xanthophyll are pigments that reflect orange and yellow light respectively. Both are present in the chloroplasts, with chlorophyll enabling the plant to absorb a wider range of wavelengths of light and thus capture more energy. These pigments are in such small quantities that they are masked by the more dominant chlorophyll during the growing season.

With the passing of summer, days become shorter. The phytochrome, the light-sensing mechanisms in leaves, recognizes the shorter day lengths. The shorter days and lower temperatures arrest chlorophyll production. Chlorophyll breaks down faster than it is replaced, allowing the yellow and orange pigments to be unmasked.

The molecules reflecting red wavelengths, anthocyanins, are water-soluble pigments that occur in the cell sap creating the red, pink, and purple hues. Not all trees produce anthocyanins. These pigments are not present during the summer, but their formation is encouraged during a succession of cool nights and sunny days. During these days when photosynthesis and chlorophyll production are decreasing, an abundance of sugars accumulates in the leaf. The cool nights promote a separation layer of cells in the petiole, where the leaf attaches to the twig, that prevents sugar from flowing out of the leaf, and also arrests the flow of nutrients into the leaf. The formation of anthocyanin requires bright light, a diminishing water supply and the accumulation of sugars trapped in the leaf.

How does weather affect color? The amount, duration and brilliance of autumn color depend on weather conditions that occur before and during the time chlorophyll in the leaves is dedining. Temperature, light and water supply are the primary factors that influence the synthesis of carbohydrates (sugars) that favors anthocyanin formation and bright fall color. Cool, but not freezing, temperatures favor anthocyanin production. Early frost is more likely to kill leaves, making them turn brown and fall sooner from the trees. Bright light favors red colors, so red color often develops on exposed leaves. Water supply also affects anthocyanin production, with mild drought favoring bright reds. Rainy days occurring near peak coloration will decrease color intensity. Late summer droughts can delay the onset of fall color by a few weeks. Temperature, sunlight and moisture are highly variable each year, assuring that no two autumns are alike.

Individual trees of the same species growing together often show differences in leaf color because of variations in the amount of sugars in the leaves and genetic predisposition.

Some reach their peak color earlier than others. Variations among species in the rate of color change reflect differences in chlorophyll breakdown, production of anthocyanin and exposure of carotene and xanthophyll.

When is the best time for autumn color? In Tennessee, autumn color begins first at the higher elevations in response to cooler temperatures and shorter days. The color progresses to the lower elevations, extending the duration of fall color. The average peak period of fall color in Tennessee ranges from the last week in October through the first week in November. Two trees recommended for a wide array of leaf color are sugar maple and sweetgum. Sugar maples turn yellow then orange and sweetgum color can vary among individual trees from yellow to red and purple. A few trees with dazzling yellows are ginkgo, hickories, honeylocust and ash. Vibrant reds include red maple, blackgum and red oaks.

The University of Tennessee Agricultural Extension publication SP514, Small Trees for Fall Splendor, lists some of the small trees such as dogwoods, sumacs and sourwood that are recommended for fall color. For more information about the fall coloration of larger trees, see SP529 Changing Colors of Leaves on the website www.utextension.utk.edu/publications/spfiles/SP529.pdf.

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Tennessee Tree Farm Program

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The Secret to Moist and Delicious Venison & Game Meats

Reprint from Riverside Retreat

~ 250 DEGREES ~

We have all had dry roasts and steaks from wild meats. It is one of the most common complaints of people eating and preparing venison. Deer and elk as all wild game meats and are low in fat. The fat that is present is not mixed or marbled throughout the meat fibers as in beef. This makes the meat tend to become dry as it is cooked. Even when adding fats to sausages and wrapping around and on top of wild meat as it is cooked, the moisture is still lost through the cooking process and dry meat is the result.

After many years of enduring dry roasts and not so good steaks, we have found the secret to really good and moist wild meat cooking. 250 degrees Fahrenheit. This is it! Very simply put! Cooking wild meats at this low temperature will be the difference between ordinary dry meat and a really good meal. Try your favorite recipe with the temperature reduced and the cooking time increased and see if you agree.