2021Cumberland NOW September Yards and Gardens: What is Sustainable Landscaping?

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Note to fellow home gardeners: M*y email address is included hoping readers will contact me with garden and landscape questions that may lead to topics for future articles. If you have a plant problem or a plant identification issue, attach digital picture(s) to the email. You might also recommend great looking landscapes in your neighborhood I could visit and photograph (for publication) to spark reader landscaping ideas to try around their homesteads.*

While prowling University of Tennessee online resources recently I discovered a 2020 publication in the "Backyard Wildlife" section of the UT Hort website, https://www.UTHort.com, which is packed with useful horticultural information. Click on the "View Resources" link located to the left, mid-screen at the site then select "Backyard Wildlife" on the next page. The wildlife section offers publications on both attracting and excluding wild critters and insects. There are "topics ranging from controlling skunks to attracting frogs and songbirds as well as pollinator support in our lawns, gardens and landscapes." Scroll down to publication W868 Sustainable Landscaping Planning and Plant Selection. W868 may be viewed online or printed at no charge.

Planning and plant selection is on my mind as autumn approaches. I have established a wildlife-friendly property. In particular, I grow season-long blooming perennial plants as well as annuals in containers to entice hummingbirds and butterflies to stop at my place and sip nectar. In mid-August, three or more migrating hummingbirds were zipping back and forth every day between four sugar-water feeders. Both the hummers and butterflies enjoy tube shaped flower clusters on my tall garden phlox (Phlox paniculata). I've included photos of some other late-season bloomers that attract butterflies and other pollinators.

After living 27 years in my lakeside house in the woods I'm replacing some flowering herbaceous perennials with small to medium sized shrubs hoping to cut back on maintenance. There is a mistaken notion that soft-stemmed perennial plants are maintenance free. That is not true. Many garden tasks must be done whether caring for annuals, biennials or perennials. Garden sanitation is a good example. Plants spread by either vegetative reproduction or seed. Thinning plants is always high on my fall yard and garden must-do list. I've found getting rid of weeds around flowering plants that stay in place can be a bigger chore than eliminating weeds in a bed that gets tilled and freshly planted each spring. However, if bushes and trees are surrounded with mulch weeds are suppressed and eliminating weeds around those woody-stemmed plants isn't difficult. (Do not pile mulch on the plant base- that causes other problems.)

The question "What is sustainable landscaping?" is answered on page one of pub W868. "It's landscaping in balance with nature, your budget, your community and your lifestyle."
The publication introduction spells out sustainable landscaping in more detail. "Each property… is a part of a larger ecosystem where unique combinations of soil, water flows, climate, and living things combine differently to create distinct ecoregions. The unique natural elements in your region of Tennessee need to be incorporated into landscape decisions to offer a sustainable balance that meets your needs and also makes sense for your climate, soil and other environmental conditions."
Four components of a sustainably landscaped yard:

1. Healthy soil
2. Water and Energy Consciousness
3. A Sense of Place
4. Diversity

Soil makeup has a significant effect on plant well-being in the mix of environmental influences. Soils have a number of components. First is "parent material". That is the bedrock source providing mineral particles and stones when "weathering" causes that underlying material to disintegrate through chemical or physical processes. "Organic matter" is the second major soil component. That is material which is or was living. Organic sources like earthworms, insects, and tiny organisms are in the animal category. Vegetation, both living and decaying make up the remaining organics. Also important are the spaces around and between the bits of organic matter, rocks, and mineral particles known as "pores". These are pathways along which water and elements of air like oxygen and carbon dioxide travel through soil creating the "good drainage" many plants need for best performance in gardens and landscapes.

Soil mapping is done by the United States Department of Agriculture and Natural Resources Conservation Service. The maps describe distinct soil types within a county. Characteristics of various soils defined by such a report include parent material, organic content, depth to bedrock, pH, and soil texture (clay, silt, sand, sandy loam, loam, etc.). Each soil is also described in terms of slope. How that land is used and problems which limit beneficial use of a particular area for agriculture, urban development, or recreational use are listed as well.

The Soil Survey of Cumberland County, Tennessee indicates sandstone is parent material for 85% of mapped areas in this county. The Cumberland Plateau beyond our state's borders is also capped by 20 to 230 million year old Pennsylvania Age sandstone. The cement that binds sandstone can vary in chemical composition. The binder for Crab Orchard building stone and other local sandstones is typically high in silica and/or iron oxides which create rock that does not react chemically and resists water erosion. Less than 3% of the county has limestone parent material. These areas include the Sequatchie Valley near the southeast end of the county as well as slopes of mountains surrounding Grassy Cove and Crab Orchard Cove. The remaining 12% of parent material found here are siltstone and shale which are softer and erode more quickly than the sandstone mentioned earlier.

Some characteristics of the sandstone parentage soil most county residents are dealing with are sandiness, low fertility (especially phosphate), and low pH (in other words the soil is acidic). In addition, soil depth to bedrock is often shallow and organic matter is usually low.