



Forsyth County Cooperative Extension News April 2017

Hello, Neighbors! Hopefully, warmer weather is settling in and the next rain event will be April showers rather than damaging storms. Last month I briefly mentioned that tree boring beetles, especially pine boring beetles, are more abundant in the spring after a drought. In the article below, UGA forestry and natural resources specialists Elizabeth Benton and Kamal Gandhi explain why this happens and what to look for in your trees. Also, take a look at the line-up of [Forsyth Digs Earth Day](#) back-to-nature events planned just for you. They're happening throughout the day, throughout the county on Saturday, April 22.

Drought Stressed Georgia Pines are Dying from Engraver Bark Beetle Attacks

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Rainfalls levels were below normal in Georgia during most of 2016, and much of northern Georgia is still experiencing severe to extreme drought conditions. While these areas have received rainfall, drought conditions are still predicted through May 2017 in northern Georgia. Agriculture, wildlife, and water quality resources have been negatively affect by the drought.

Forests, especially in the Piedmont and mountain regions, are showing the drought effects, with over 200 Ips engraver infestations being reported in excess of five acres. Many infestations have been 25 to 50 acres in size. Pines are dying even in areas of the state that are not currently in official drought conditions, and the question is, "Why is this happening?"

Drought stresses and weakens trees, making them more likely to be attacked by bark beetles. Under drought, trees do not receive enough water to perform their normal life processes, like converting sunlight to energy. Tree drought responses include leaf wilting, early leaf fall, dying tissue, shutting down roots, and changing chemical process within the tree. Many of these changes occur to conserve water and keep the tree from dying. Even as rainfall conditions return to normal, trees require time to fully recover from their drought response. So there can be a time-lag between increased rainfall and full tree health recovery.



Ips beetle activity rises after drought. Photo: J.R. Baker & S.B. Bambara, North Carolina State University, Bugwood.org

Unfortunately, this time-lag and milder winter temperatures gives bark beetles more time to attack pine trees.

Pine trees growing in higher and drier locations are most likely to experience bark beetle infestations and ultimately tree death. However, drought stressed pine trees are susceptible to bark beetle attacks. Once a few trees start dying, the number of infested trees may continue to grow within a forest or neighborhood. There are multiple signs bark beetle attack, including branch dieback (or flagging), changes in needle color (green to yellow to brown), and eventually tree death with needles falling from branches. Other signs that directly indicate bark beetle activity, include small (1-2 mm) round exit/entrance beetle holes on the bark (Image 2). Sometimes sticky pine pitch will surround the hole, but this symptom is mostly absent on drought-stressed trees.



Brown needles at the tree crown is a sign of pine beetle attack. Photo by Kamal Gandhi, University of Georgia.

Gently peel bark to expose inside of the bark and outer wood. Galleries etched by pine engraver beetles (*Ips* species) (Image 3) will be visible on the inner bark (Images 4 and 5). Southern pine beetle also may be present in the same tree, but the main culprits in recent pine death are the engraver beetles, especially *Ips avulsus*. These beetles are usually not a major problem, only attacking a few stressed trees in the forest. However, since many trees are drought-stressed, engraver beetles are taking advantage of the increased easy food supply. In addition, warmer winter conditions have allowed them to continue to be active during the dormant season. The Georgia Forestry Commission has identified over 1,000 forested acres where engraver beetles are killing pine trees.

Dead and dying pine trees in forests can be harvested to recover economic value from timber stands. Dead pines in lawns will need to be removed, as dead trees can be hazardous to life and property. It is important to contact certified arborist professionals for tree removal, and confirm that these tree removal specialist are insured. If you have pine trees that are dead and dying with fading crowns, please contact your local county extension agent or the Georgia Forestry Commission for assistance.



Holes in bark is a sign of pine beetle attack. Photo by Kamal Gandhi, UGA.



Right: Engraver beetles etch galleries into the inner bark of pine trees. Photo by Elizabeth Benton, UGA.

Forsyth Digs Earth Day offers outdoor fun around the county

Driving around the county, I'm amazed at the new roads, new construction, and new land clearing projects. Although the landscape has transitioned from primarily rural to predominately urban/ suburban over the past 20 years, Forsyth County retains natural riches in the forms of parks, farms, and gardens. Many of these amenities will be on display for entertainment, exploration, and enlightenment as Forsyth Digs Earth Day. All throughout Earth Day, April 22, 2017, you'll find fun, hands-on activities at various venues around the county. Here's a partial slate of events:

8 a.m.-noon – Horticulture Open House at Lanier Technical College. Tour the greenhouse and container plant gardens. 3410 Ronald Reagan Boulevard.

8 a.m.-4:30 p.m. – Buford Trout Hatchery. Hatchery tour, nature trails, bird watching, and catch and release fishing in the Family Pond. Visit www.georgiawildlife.org/Hatcheries/Buford for directions.



9 a.m.-noon – Farmer's Market Preview. Meet your local farmers, shop for fresh produce, talk to your Extension agent, learn about 4-H programs, and enjoy live music by Chris Hamrick. Across from the Cumming Fairgrounds, 235 Castleberry Road.

9 a.m.-noon – Hike Sawnee Mountain with a Master Gardener and learn about native and invasive plants. Tours depart from the Louise Mashburn Native Plant Garden at the Bettis-Tribble Road trailhead.



9 a.m.-until – Great American Clean-up with Keep Forsyth County Beautiful. To participate, pre-register by April 20 by calling 770-205-4573 or visiting KeepForsythCountyBeautiful.org.

10-11 a.m. – Square Foot Gardening Class at the Learning for Life Garden. Reserve your spot early! Call 770-887-2418. Forsyth County Extension office, 875 Lanier 400 Parkway.

10 a.m.-noon – Tour The Secret Garden at Cumming Library with Forsyth County Extension Master Gardeners. Learn about drought-tolerant shade plants and how to select the right plant for the right place in your landscape. Children's activities, too. 585 Dahlonega Street.

10 a.m.-2 p.m. – Fowler Park Festivities. Join Forsyth County Extension Master Naturalist volunteers at the Big Creek Greenway trailhead (near the skate park) to celebrate Earth Day, visit the Water Wonders exhibit, and Wander the Greenway with a Master Naturalist to learn about their citizen science projects. 4110 Carolene Way.

10 a.m.-2 p.m. – Bethelview Trailhead of Big Creek Greenway. Visit the native plant garden and learn from Forsyth County Master Naturalist Extension Volunteers how to grow them in your garden.

10 a.m.-4 p.m. – Farmer for a Day at Warbington Farms. Story time, planting, "hey" ride, petting zoo, fun park, and antique tractor show. Visit www.warbingtonfarms.com for details.



10 a.m.-until – Take a Tree Home and other activities. Sawnee Mountain Preserve Visitor Center, 4075 Spot Road.

1-3 p.m. – Growing Giant Pumpkins Workshop. Join Forsyth County Extension Agriculture & Natural Resources Agent Heather Kolich to learn the secrets of growing giant pumpkins and how to get yours started for the Giant Pumpkin contest at the Cumming Country Fair and Festival in October. \$5 includes workshop, official contest seeds, and contest entry fee. Call 770-887-2418 to register. Learning for Life Garden, Forsyth County Extension Office, 875 Lanier 400 Parkway.



1-3 p.m. – Dual-purpose Vegetables Cooking Demonstration. Join Forsyth County Extension Family and Consumer Sciences Agent Barbara Worley to learn about vegetables with multiple edible parts. Forsyth County Extension Office, 875 Lanier 400 Parkway.

2-4 p.m. – Scavenger Hunt through the Poetry Garden at Post Road Library with Master Gardeners to learn about beneficial insects. Plant an herb to take home. 5010 Post Road.

4-5 p.m. – Scavenger Hunt through the Pollinator Garden at Hampton Park Library with Master Gardeners to learn about pollinators and the plants that feed them, and make a bee habitat to take home. 5345 Settingdown Road.

5:30-7p.m. – Adopt-a-Stream Amphibian/ Frog Monitoring Workshop with Kevin Smith of Keep Forsyth County Beautiful. Hampton Park Library. Register at keepforsythcountybeautiful.org.



7 p.m. – Evening Frog Walk with Forsyth County Master Naturalist volunteers. Learn to identify frogs and toads by sound. Big Creek Greenway, Bethelview trailhead and Fowler Park trailhead. At Fowler Park, walks depart from the Educational Kiosk, just down the trail from the skate park.

We hope to see you out there discovering the natural treasures around our county, maybe learning something new, and storing up activity ideas for summer break!

As always, please let us know if you have questions!

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