

CU IN THE WOODS

Clemson Extension Forestry and Wildlife Newsletter



Bleeding Orange Fusiform Rust

By Stephen Pohlman

Springtime usually holds much anticipation for the forest landowner as the outdoors wakes up once again. Usually, we are thrilled with nature's beauty of dogwoods flowering under pine savannahs and wild azaleas blooming in hardwood river bottoms. Then, suddenly, our attention shifts toward our pines and the large swollen area of its trunk that has this bright orange appearance cracking out from the bark. At first, you think your pines bleed orange too, but sadly you have just discovered the showy stage of fusiform rust.

What is fusiform rust?

First, you must understand that fusiform rust usually occurs on loblolly and slash pine and requires an oak species as an alternate host to complete its life cycle. The orange spores (aeciospores) you see on the pine's trunk can also be found on limbs. These spores travel by wind and land on young/tender oak leaves (typically water, willow, southern red, and laurel oak) in early spring. The oak leaves then begin to develop tiny orange spots (pustules) on the underside of their leaves that progress into spores (urediospores). These spores re-infect oak leaves to produce a hair-like protrusion of spores (teliospores) that later turn into the next spore (basidiospores). Once again, the wind transmits the spores back to the pine to infect new tender tissue growth areas between the bark. This all happens by late spring. The spores then develop into the fifth spore (pycniospores) on the pine and will form the swollen area on trunks and limbs that produce the large orange-yellow area you will see next early spring.



Fusiform Rust on main stem and limb of loblolly pine. Photo Credit: Jaime Pohlman, Clemson Extension.

What can we do about it?

With most life cycles of undesirable outcomes, the easiest answer is to eliminate one part of the puzzle to break the chain of events from happening. For fusiform rust, that means deciding to eliminate either the pine or the oak. Typically, the pine is a financial gain producer, and we do not want to lose that, hence why you are probably reading this article. The elimination of oak can be possible if the pine plantation is of large enough scale, and especially if the oak is deemed too great of a nutrient competitor for your pine anyway. But even if you eliminated all of your oaks, it's still unlikely to eliminate

UPCOMING EVENTS

Lexington County Forest Landowner Association Virtual Meeting
Tuesday, April 20th from 7pm-8:30pm.

Jennie Haskell, Coastal Partnership Coordinator for The Longleaf Alliance, will be discussing the longleaf pine ecosystem and considerations landowners need to make in managing their land for longleaf pines. Landowners from all counties are invited to participate. For more information contact Janet Steele- jmwatt@clemson.edu. [Click here to register.](#)

2 Critters/1 Workshop: Venomous Snakes and Imported Fire Ants
Tuesday, April 27, 2021 12:00 pm - 2:30 pm.

Cost: \$10

For more information Contact Parker Johnson- pdjohns@clemson.edu. [Click here to register.](#)

Bobwhite Quail Lunch and Learn Panel

Tuesday, May 4, 2021 12:00 pm - 1:00 pm.

Lunch and Learn with South Carolina's Bobwhite Quail Experts.

For more information Contact Parker Johnson- pdjohns@clemson.edu. [Click here to register.](#)

CFE Opportunities:

You can find a list of current CFE opportunities at this website: https://www.clemson.edu/extension/forestry/continuing_education/index.html

More Events:

You can find a list of more events at this website: <https://www.clemson.edu/extension/forestry/events.html>

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Bleeding Orange Fusiform Rust Cont.

fusiform rust if you are having issues due to oaks found on neighboring properties.

The best and simplest way is to plant seedlings that are genetically selected to have fusiform rust resistance. Most pine seedling nurseries have various genetic families that are better disposed to exhibit certain traits. Fusiform rust resistance is just one of the many different traits that genetic breeders look for when raising pine families to sell. As pine genetics continue to advance, most pine families are better at fusiform resistance than they were 30 to 40 years ago.

If fusiform rust shows on the pine's limbs instead of the tree's main stem, the landowner can prune the affected limb off the tree. This option is only viable if it happens in low enough frequency that the task is not greater than the desire to remove the rust. Height considerations and equipment limitations play greatly into this equation as well.



Fusiform canker on main stem with new fusiform spores inside. Photo Credit: Jaime Pohlman, Clemson Extension.

Lastly, another option is to plant a different pine species if you have soil conditions that allow you to do such. Shortleaf pine and longleaf pine are both typically more resistant to fusiform rust.

Why is fusiform rust such a big deal?

Fusiform rust galls leave behind an area of poor wood quality.

You may have heard some timber industry professionals refer to them as 'cat faces' or *Cronartium* (which comes from its species name *Cronartium quercuum* f. sp. *fusiforme*). These weak areas on the main stem are subject to breakage during high wind events, leading to the tree's mortality. If the tree does manage to live long enough to make it until harvesting, either thinning or clearcut, it is recommended to remove the stem from the forest.



Fusiform canker on main stem of loblolly pine. Photo Credit: Jaime Pohlman, Clemson Extension.

The decision to cut out the old fusiform rust cankers during the wood merchandising process should be left up to the forester and communicated to the logger to maximize landowner profits. Wood merchandising is the act of cutting the tree into sections depending on products that can be made from it. The decision to cut out fusiform rust cankers is based on the frequency of fusiform rust in the stand and the local sawmill's tendencies. Typically, sawmills will administer deducts toward a log, or a load of wood, if the fusiform affects the log too much.

Hopefully, this article will help you better understand fusiform rust, its causes, how it can be managed, how it can be prevented, and how it can be worked around. Again, the best way to prevent fusiform rust is to minimize oak interaction and plant fusiform rust-resistant genetic families during reforestation when you know your area has the constant presence of oak.

Edge Feathering for Wildlife Benefit

By Sean Bowers

Spring has sprung, and many are ready to get out on their property to continue their forest and wildlife management. One often overlooked aspect of wildlife management is the edge. The edge is the zone where two or more different habitat types intersect. Enhancing and expanding this area using a technique called 'edge feathering' can be highly beneficial for wildlife. Edge feathering is simple and easy to implement; all you will need is a chainsaw (or handsaw if you're feeling brave), herbicide, and a solid plan of action.

With human impacts and fragmentation of landscape use, the transitional edge has been largely overlooked or removed as a habitat type. Fencerows overgrown with shrubs and grasses were common in the agricultural/rural landscape and provided large amounts of transitional edge habitat. However, with the advent of better

equipment and herbicides, there is rarely a transitional zone left between an agricultural field/grassland and forestland. There is just an abrupt change in structure and vegetation types, known as a hard edge. Hard edge zones lack the essential components of intermediate stand structure and cannot provide any protective escape cover or plant species diversity that wildlife depends on.

So why improve edge? Proper forest management is not just about growing timber. Forests managed for overall ecosystem health display greater resiliency to pests, faster recovery from disturbance events, provide recreational/aesthetic services, and support robust wildlife populations. Edge feathering allows landowners to manage their wildlife habitat, stand regeneration, and general ecosystem health.

The first step to edge feathering is to evaluate the current

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Edge Feathering for Wildlife Benefit Cont.

composition of the edge, noting species present, invasive plants present, topography, land use (current and historical), etc. You will need to focus on managing a strip of land at a minimum of 30 feet up to 100 feet in width for proper feathering. This strip provides enough space to form a transitional zone that gradually changes from an open area to forested cover. A professional forester can assist you with this evaluation and advise you on how to best proceed regarding the site's specific needs.

You can utilize several management techniques to increase the amount of gradual edge on your property. Generally, edge feathering focuses on trees less than 6-8 inches in diameter at breast height (DBH), which is a measurement taken 4.5 feet above the ground. When cutting the less desirable trees, apply herbicide to the cut stump to prevent resprouting. Always follow all label directions when using herbicide. The label is the law! The felling of less desirable tree species allows more sunlight to reach the ground and increases understory diversity. Leaving the cut trunks creates snags and insect habitat within the feathered edge. Mast-producing species, such as oaks or hickories, should be left in the overstory unless they are of inferior form or vigor. Reduction of tree cover should be greater towards the more open habitat and lesser towards the mature forest stand. The reduction gradient allows for a wide variation of stand structure and species composition in a relatively small area with a gradual transition to a mature forest.

Once trees in the area are felled, native shrubs, forbs, and grasses can be planted to accelerate these species' natural regeneration. Planting allows for greater control of species composition within the edge rather than relying on the seed bank. Use native plants to discourage fast-growing invasive species. Some maintenance of these plantings may be needed, such as tree tubes or exclusion fencing, to allow these plants to establish in the area without vulnerability to heavy browse pressure from wildlife. Follow-up cuts and tree removals may be needed every 3-5 years to maintain herbaceous annuals on the site, as canopy closure will remove the available sunlight that these plants need to flourish.

Hinge cutting is a technique where smaller (<6-8 inches DBH) understory and midstory trees are felled using only a back cut. Using this technique allows a portion of the tree's cambium layer (nutrient and water transporting

tissue) to stay intact and causes dense lateral sprouts on the stem providing excellent browse for herbivores and increased cover for wildlife. Hinge cuts also help manage regeneration in a forest stand by protecting delicate seedlings from browse pressure with dense cover. Hinge cutting is best performed during the dormant season to avoid insect pests and further stress on the cut trees. A common mistake with hinge cutting is felling the trees into a thick, overlapping brush pile. While this pile will sprout, the pile's density can exclude sunlight from the ground below, essentially creating another forest canopy and not allowing for increased species diversity.

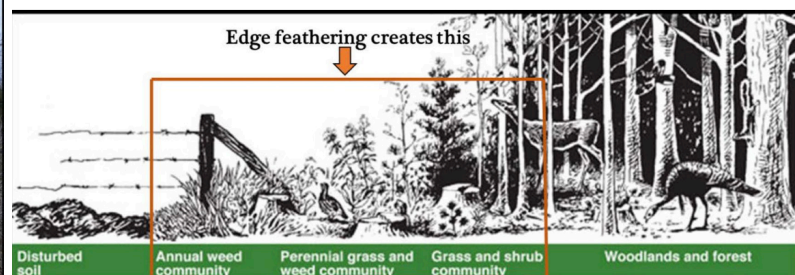
Bobwhite quail benefit tremendously from edge feathering activities. Bobwhites are a species requiring early-successional habitat of grasslands and brushy-shrubby areas. The soft edge provides escape cover, nesting habitat, and more readily available food sources. In areas with exclusively hard edges, quail are highly susceptible to predation, more easily affected by weather, and lack food by reduced insect populations. With the addition of dense shrubs, grasses, and forbs, the quail can shelter from predators and have thermal cover during summer months. The added native plants also provide a veritable buffet of insects for the covey.

Deer also greatly benefit from the creation of an edge in their environment. Edge feathering activities allow more sunlight to reach the forest floor, encouraging forb species to sprout, providing excellent browse and readily available protein. The increase in forbs can reduce damage from deer browse to recently planted food plots or agricultural fields. Hinge cutting can be used to create alleyways or paths that funnel deer to or away from certain areas while also providing more readily available browse from the lateral sprouts.

Edge feathering is a simple management tool that has a quick turnaround on its ecological benefits. This technique is relatively cheap and easy to maintain, benefiting both game and non-game species. Having a management plan is an invaluable tool for setting goals and objectives that work best for one's property, and edge feathering can be part of your toolbox. All methods of installing a soft edge have their unique benefits and drawbacks; consult a forester or your local extension agent to find out more about what will work best for you.



The image on the left shows a typical woodland edge (hard edge), while the figure on the right displays a feathering operation (soft edge). Image adapted from University of Purdue College of Agriculture, 2018 <https://ag.purdue.edu/arge/pac/Documents/sepac/Edge%20Feathering%20SEPAC%20Jan%202018.pdf>



Plant Succession from a fallow crop to a mature forest. Image adapted from University of Missouri Extension- <https://extension.missouri.edu/mp907?p=2>

Pine Straw: Considerations for Production on Your Land

By Janet Steele

With spring weather and homeowners turning their focus to outdoor projects, pine straw sales are beginning to pick up quickly. Pine straw has become a favored mulch on residential and commercial sites. The qualities that make pine straw an essential part of a woodland ecosystem, such as moisture-holding capacity, protection for roots against temperature extremes, providing natural fertilizer, and protecting soils by reducing erosion, also make it a desirable addition to landscaped areas. Forest landowners can successfully include pine straw production as a source of additional income from suitable timberlands when implemented as part of their overall forest management plan. However, there are various things to consider before planning to rake pine straw on your property.

Species

The first consideration is the pine species growing on the property, if a landowner will be raking an existing stand, or what species is suitable for planting if establishing a new stand. Pine species' desirability for straw varies by needle characteristics and the volume of straw produced per acre (Table 1). Longleaf pine is the preferred species for pine straw production due to its needle length and slower needle decay rate. The longleaf needles are raked and baled more easily and interlock once spread, creating a blanket-style mulch layer.

Stand Age

Another consideration when deciding to rake pine straw is the age of the stand. Pine straw raking can begin in young stands at full canopy closure, ranging from 6 to 10 years of age based on species. Straw production peaks at about 15 years of age. Besides species and the stand's age, the volume of pine needles produced each year also depends on the stand's stocking, site index, and if the site is fertilized to enhance production.

Species	Needles/ Fascicle	Needle Length (in.)	Rake Yields/ Ac (Avg. # of 20 lb. bales)
Loblolly Pine <i>Pinus taeda</i>	3 to 4	5-9"	150-275
Longleaf Pine <i>Pinus palustris</i>	Usually 3	8-18"	80-200
Slash Pine <i>Pinus eliottii</i>	2 to 3	6-11"	125-250

Table 1. Needle characteristics and average production per acre.

Stand Stocking

Stocking is measured by basal area. Basal area is a measure of the cross-sectional area occupied by tree stems for their diameter at breast height (4.5 feet) and expressed on a per-acre basis. Stand densities of 75 ft²/acre to 125 ft²/acre are typical stocking ranges in stands managed for pine straw. Stands with higher densities have an increased risk of forest health issues due to overstocked conditions. Delaying stand thinnings in favor of maximizing straw production can have an overall negative impact on timber quality and quantity.

Stand Management Practices

Management practices such as fertilization, herbicide applications and prescribed burning will help you to maximize your pine straw production. Fertilization to enhance pine straw production varies depending on species and site quality. Intensively raked stands on sites with low fertility that are well-to-excessively drained tend to show the most enhanced straw production following fertilization. Although general guidelines are available for fertilization rates, both soil and foliage should be submitted for testing to determine specific rates for the site being raked. Over-fertilization can cause tree mortality. One downfall of fertilization is that it also increases undesirable vegetation in the understory. This can lead to a need for herbicide treatments to control this vegetation.

Herbicide treatments can make a stand more marketable for straw raking. These treatments

reduce unwanted trees and other vegetation in the midstory and understory, improving the quality of the straw being baled. By controlling hardwoods when planting stands and having minor encroachment from undesirable vegetation, your stand can be ready to rake at canopy closure without any additional treatments. Pine straw raking does expose mineral soil, which can stimulate undesirable species' germination. This is mainly a concern after a stand is thinned, and the reduced canopy allows more sunlight to reach the forest floor. Herbicide treatment method, time of year, and application rate vary with the pine species on-site and with the selected herbicide. Herbicides that are soil-active can damage pine trees in the stand when misapplied. Foliar active herbicides can be applied in any age stand as long as the spray does not contact the crop trees' foliage. Hack-and-squirt, basal bark, and cut stump applications are also options on larger stems or when the



Pine stand with hardwoods removed for straw raking. Photo Credit: Janet Steele, Clemson Extension

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number of stems to treat per acre is low.

Establishing a pine straw raking schedule can provide the natural benefits of needle decay to a stand. This would reduce the need for fertilization by allowing a portion of the pine needles to remain on site. Peak pine needle fall occurs in October and November. Raking once a year during these months allows a portion of the yearly needle drop to stay in place. A rake every three-year schedule is recommended to optimize the benefits of retaining some needles on the forest floor. This provides an opportunity for decaying pine needles to improve nutrient recycling on site, especially when combined with prescribed burning during a year when the stand is not raked. Also, raking should be postponed during periods of fall drought since removing the pine needles can increase stress to the trees by decreasing the already low soil moisture.

Alternating years of raking with a yearly burn and a year of rest can benefit wildlife habitat and provide some hardwood control. Seasonality of prescribed burning will determine what vegetation will be promoted in the understory and what will be reduced. Winter burns promote herbaceous vegetation and grasses favored by wildlife species while growing season burns can help control undesirable hardwood stems. Burning will also help reduce debris on the site, such as cones and small branches, resulting in cleaner straw.

Baling Methods

The method of pine straw baling can vary depending on stand access, site factors such as slope and soil type, labor and equipment available, and the structure of the stand. Machine baling is possible under dry conditions in stands that have 8 to 12 feet between rows. These stands must also have good equipment access, be relatively level, and not have low limbs. This process is similar to baling hay. The straw is raked into windrows, removing cones, leaves, limbs, and other debris, and then baled into rectangular or round bales. This method can produce as many as 1,000 40 pound bales per day on a good site. These bales are often used for commercial projects.

Hand raking and baling is the most common method and is done on sites with tighter or irregular tree spacing, uneven or sloping ground, and limited access. The straw is raked and then packed into a box baler constructed out of wood that compresses the straw until it is bound with twine. An individual on a hand baling crew can produce between 100 to 200 bales per day depending on the straw's cleanliness and density. There is no standard bale size or weight, but rectangular bales



Pine straw raked in a windrow. Photo Credit: Ryan Bean, Clemson Extension

usually measure 24 to 30 inches in length, with weights varying from 10 to 25 pounds. Whether machine or hand raking, designated piles or rows for debris are created within the stand.

Selling Pine Straw

Research published by the University of Georgia in 2018 found that the per bale price paid to landowners in Georgia for rectangular bales of longleaf straw ranged from \$0.50 to \$1.25. Slash bales had a range of \$0.50 to \$0.65, and loblolly was the least profitable source of pine straw with a range of \$0.25 to \$0.40 per bale. A landowner who does not want to bale and market their own straw needs to ensure that they have a contract in place which includes stipulations for the raking schedule (months to rake and the number of rakings per year), the length of the contract, and the contract method (per bale or per acre). Landowners who cannot visit their property during raking to spot check the number of bales being harvested should utilize a per acre contract. This method pays a yearly rate per acre and can range significantly depending on the volume of pine straw the stand is producing and how much labor the contractor will need to invest in getting the stand into raking condition. Pine straw contracts should not be written for longer than 3 to 5 years. During this time, you can continue a good raking schedule and implement management practices such as prescribed burning, fertilization, and herbicide applications. This will continue to increase the quality and quantity of the straw, thus increasing its value.

Pine straw contractors will usually remove the straw from a property as it is baled. Landowners who are raking and selling their straw need to ensure they have a site to store the straw until it is ready to be sold. Baled straw that has been exposed to moisture can mold and become unmerchantable. Also, the storage site should be secure enough to prevent theft.

Resources

The list of resources used for this article includes sources that have examples of pine straw contracts and dimensions for constructing a box-baler. For more information on pine straw production or to determine if your property has the potential to generate income from this mid-rotation product, contact your local Clemson Extension Forestry and Natural Resources agent.



Pine straw box baler. Photo Credit: Ryan Bean, Clemson Extension

Pine Straw: Considerations for Production on Your Land Cont.

Dickens, E.D., Moorehead, D., Morris, L., and Bargeron, C. (2018). Pine straw yields and economic benefits when added to traditional wood products in loblolly, longleaf, and slash pine stands. Athens (GA): University of Georgia Warnell School of Forestry and Natural Resources.

Dyer, J. & Barlow, B. (2021). Harvesting pine straw for profit: Questions landowners should ask themselves. Auburn (AL): Alabama Extension. Retrieved from <https://www.aces.edu/blog/topics/forestry/harvesting-pine-straw-for-profit-questions-landowners-should-ask-themselves/>.

Megalos, M., Addor, M.L., & Hamilton, R. (2019). Managing longleaf pine straw. Raleigh (NC): NC State University Extension. Retrieved from <https://content.ces.ncsu.edu/managing-longleaf-pine-straw>.

Moorhead, D., & Dickens, E. D. (2015). Herbicides to enhance pine straw production by minimizing competition in loblolly, longleaf, and slash pine stands after the establishment phase. Athens (GA): University of Georgia Warnell School of Forestry and Natural

Resources. Georgia Forest Productivity Publication Series 001R. Retrieved from https://bugwoodcloud.org/bugwood/productivity/pdfs/Herbicides_pinestraw.pdf

Self, B. (2019). Pine straw: Harvesting the product. Starkville (MS): Mississippi State University Extension. Publication 2761. Retrieved from <http://extension.msstate.edu/publications/pine-straw-harvesting-the-product>

Taylor, E. & Foster, C. (2004). Producing pine straw in East Texas forests. College Station (TX): Texas A&M University. Publication B-6145. Retrieved from https://oaktrust.library.tamu.edu/bitstream/handle/1969.1/87207/pdf_1876.pdf?sequence=1&isAllowed=y [This source includes supplies needed and the dimensions to construct a box baler].

Wallace, D. & Ward, T. (2011). Pine straw: A profitable agroforestry enterprise. Lincoln (NE): USDA National Agroforestry Center. AF Note-37. Retrieved from <https://www.fs.usda.gov/nac/assets/documents/agroforestrynotes/an37ff06.pdf>

Yellow-bellied Sapsuckers (*Sphyrapicus varius*)

By Parker Johnson

Have you recently noticed new holes in your tree and are not sure what caused them? Yellow-bellied Sapsuckers could be responsible. As their name suggests, this woodpecker species relies on tree sap as their primary food source and they usually start “drilling” trees for sap in early spring.

Homeowners often contact the Extension Service this time of year worried that they are experiencing an insect infestation of some sort in their trees. Thankfully, they need not be alarmed and take a closer look at the holes in their tree. Sapsuckers will drill small, circular holes in a near-perfect line to extract as much sap from the tree as possible. Sometimes these systems of holes will wrap around the whole trunk of the tree. Once the tree has entirely leafed out, sapsuckers create shallower, rectangular holes to catch the sap traveling down from the leaves. These holes still maintain that neatly organized signature. Insects on the other hand are not as obsessively neat and organized when chewing into the tree bark, so their holes are more randomly scattered on the tree. Sapsuckers are attracted to old tree wounds, either the holes previously drilled by sapsuckers or other types of injuries, and may often return to the same tree each season. Holes drilled by the sapsucker are not typically harmful to the tree but can be

if they are extensive enough and especially if they girdle the tree.

Most landowners will just let the birds be, but others may want to control the damage. You may not use lethal control of any kind for this bird, including poison, trapping, shooting, etc. The Yellow-bellied Sapsucker, in addition to all other woodpecker species, are included and classified under the Migratory Bird Treaty Act and are protected by state and federal law. You can, however, use exclusion methods or repellents to deter reoccurring damage. One example of exclusion is wrapping areas of the damaged tree with burlap or a similar-type material and removing it once the feeding period has ended. You may also install frightening devices, either visual or audio, such as metal pans, fake owls, etc., which will scare sapsuckers away. Be mindful, with any wildlife control method, especially while using frightening devices, the animal may become accustomed to the action over time. To combat this, try switching up the frightening method every couple of weeks.



Yellow-bellied Sapsucker (Female). Photo Credit: Andy Morffew is licensed under CC BY 2.0.

Resources:

<https://www.uaex.edu/publications/pdf/FSA-7561.pdf>

https://www.allaboutbirds.org/guide/Yellow-bellied_Sapsucker/lifehistory

An Update on the Asian Longhorned Beetle in South Carolina

By Dave Coyle, PhD

The Asian longhorned beetle (ALB) is an invasive woodboring pest found in Charleston County in May 2020. ALB primarily attacks maples (especially red maple), elms, willows, birches, and several other tree species. Adults are large (up to 1 ½" long) black beetles with white spots, black and white striped antennae, and bluish feet. ALB signs include large, pencil-sized holes on trees, bleeding from wounds on the trunk, and conical, chewed-out marks on the trunk.



Adult Asian longhorned beetle. Photo Credit: Dr. David Coyle, Clemson Extension.

This infestation continues to be in the news, and there are recent updates on the eradication process. First, removals of infested trees began in November 2020 and will be ongoing for the foreseeable future. To eradicate ALB, the infested trees are removed and chipped. Davey Tree Company is working with regulatory officials to perform this work. As of now, they are focused on

residential areas in the Hollywood, SC area. A quarantine has also been implemented for the infested area, which means material from several hardwood tree species cannot move out of that quarantine area. Please note, this quarantine does not include pines or oaks but does include maples, poplars, willows, sycamore, and several other tree species. The quarantine map can be viewed at www.clemson.edu/public/albmap, and details about regulated materials can be found at https://www.clemson.edu/public/regulatory/plant-industry/invasive/_pdf/albquarantine_11jan2021.pdf

If you think you've seen ALB, please contact the Clemson Department of Plant Industry at stopalb@clemson.edu or by calling 843-973-8328.



Asian longhorned beetle exit holes in trees. Photo Credit: Dr. David Coyle, Clemson Extension.

County Forestry Associations

Abbeville County Forest Landowners Association
Contact: Tom Brant
jbrant@clemson.edu

Aiken County Forestry Association
Contact: Stephen Pohlman
spohlma@clemson.edu

Anderson Forestry & Wildlife Association
Contact: Carolyn Dawson
dawson4@clemson.edu

Calhoun-Orangeburg Forest Landowners Association
Contact: Janet Steele
jmwatt@clemson.edu

Chesterfield County Forestry Club
Contact: Ryan Bean
rbean@clemson.edu

Darlington/Florence Landowners Association
Contact: TJ Savereno
asavere@clemson.edu

Edgefield County Forestry Association
Contact: Stephen Pohlman
spohlma@clemson.edu

Greenville Forestry & Wildlife Society
Contact: Carolyn Dawson
dawson4@clemson.edu

Greenwood County Forestry Association
Contact: Tom Brant
jbrant@clemson.edu

Kershaw County Forest Landowner Association
Contact: Ryan Bean
rbean@clemson.edu

Laurens County Forest Landowners Association
Contact: Tom Brant
jbrant@clemson.edu

Lexington County Forestry Association
Contact: Janet Steele
jmwatt@clemson.edu

Lowcountry Landowners Association (Beaufort, Colleton, Hampton, Jasper)
Contact: Janet Steele
jmwatt@clemson.edu

McCormick County Forestry Association
Contact: Tom Brant
jbrant@clemson.edu

Newberry County Forestry Association
Contact: Jeff Fellers
fellers@clemson.edu

Salkehatchie Forestry Association (Allendale, Bamberg and Barnwell)
Contact: Stephen Pohlman
spohlma@clemson.edu

Saluda County Forestry Association
Contact: Stephen Pohlman
spohlma@clemson.edu

Sumter County Forest Landowner Association
Contact: Ryan Bean
rbean@clemson.edu

Tri-county Forestry Association (Berkeley, Charleston, Dorchester)
Contact: Parker Johnson
pdjohns@clemson.edu

Williamsburg County Forest Landowners Association
Contact: Sean Bowers
sbower3@clemson.edu

Contact the Association nearest to you to find out about upcoming meetings!

South Carolina Stumpage Market in Q1/2021 and an Article Synthesis

By Puskar Khanal, PhD

S.C. stumpage market trends:

Both sawtimber and pulpwood prices continue to recover from the price slump seen in the third quarter of 2020. With the gradual recovery of the overall economy from COVID-induced economic shock, forestry and mill production activities have accelerated this quarter. Restrained production activities at the mills during the COVID period have now contributed to lumber shortage and an increase in the price of lumber per thousand board feet. Higher lumber prices might lead to a rise in home prices for the new buyers.

S.C. Q1/2021 sawtimber stumpage prices:

Hardwood sawtimber prices have continued increasing trends from the lowest prices observed in the third quarter last year. Mixed hardwood sawtimber had statewide average prices of \$24.71/ton in the first quarter of this year. It is an increase of over 8% from the prices seen in the previous quarter. On average, South Carolina statewide pine sawtimber prices were \$23.56/ton in the 1st quarter of 2021. It is an increase of about 7% from the prices observed in the last quarter. Pine sawtimber prices have already recovered to the same level during the same period the previous year, but hardwood sawtimber prices are still lower than \$27.38/ton.

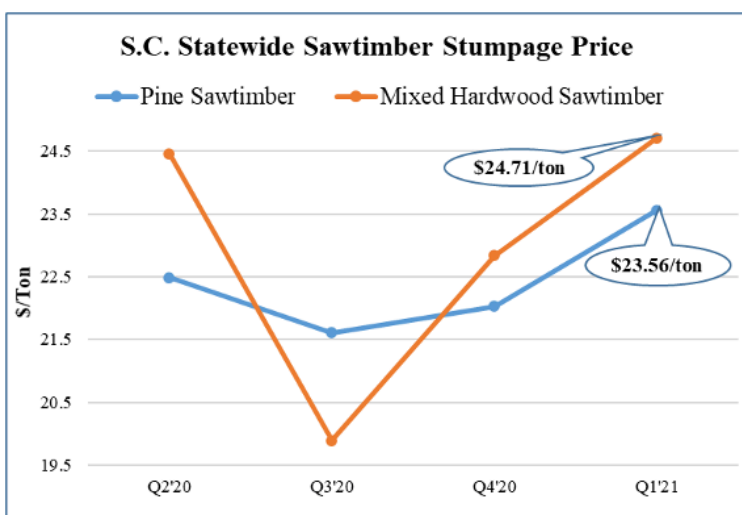


Figure 1. Graph of South Carolina sawtimber prices.

S.C. Q1/2021 pulpwood stumpage prices:

Statewide pulpwood stumpage prices for both pine and hardwood have maintained increasing trends this quarter. On average, South Carolina statewide pine pulpwood prices were \$10.56/ton in the 1st quarter of 2021. For mixed hardwood pulpwood, the statewide stumpage prices, on average, were

\$13.05/ton in this quarter. Hardwood stumpage prices have had about a 50% increase in this quarter. Both pine and hardwood stumpage prices have already reached beyond the same period's rates last year.

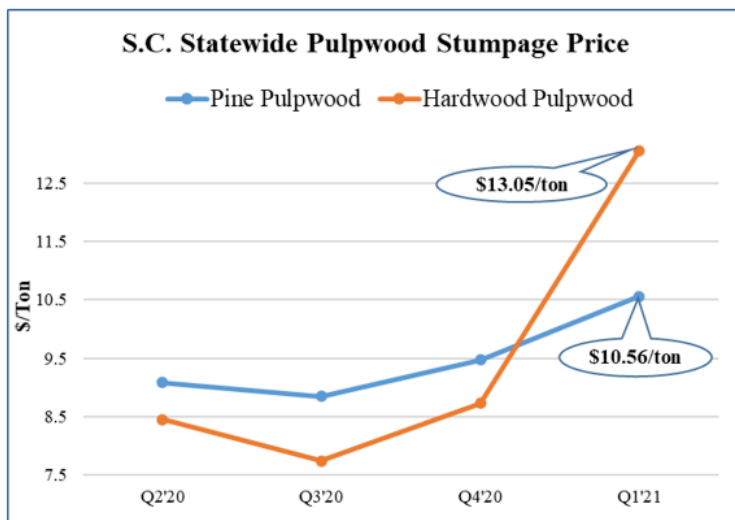


Figure 2. Graph of South Carolina pulpwood prices.

Article synthesis 'Why are timber prices low?':

In a recent article, 'Why are timber prices low?', Dr. Brooks Mendell discussed a critical reason contributing to the enormous gap between softwood lumber prices and stumpage markets in the Southern United States. This article attributed the availability of excess pine sawtimber volume to the lower prices. This is even with new mills opening, increasing the mills' total wood processing capacity in this region since the last recession. Notably, the article provided exciting data that the dollar per acre value of timberlands has increased significantly in this period in the South amid disappointing pine stumpage trends.

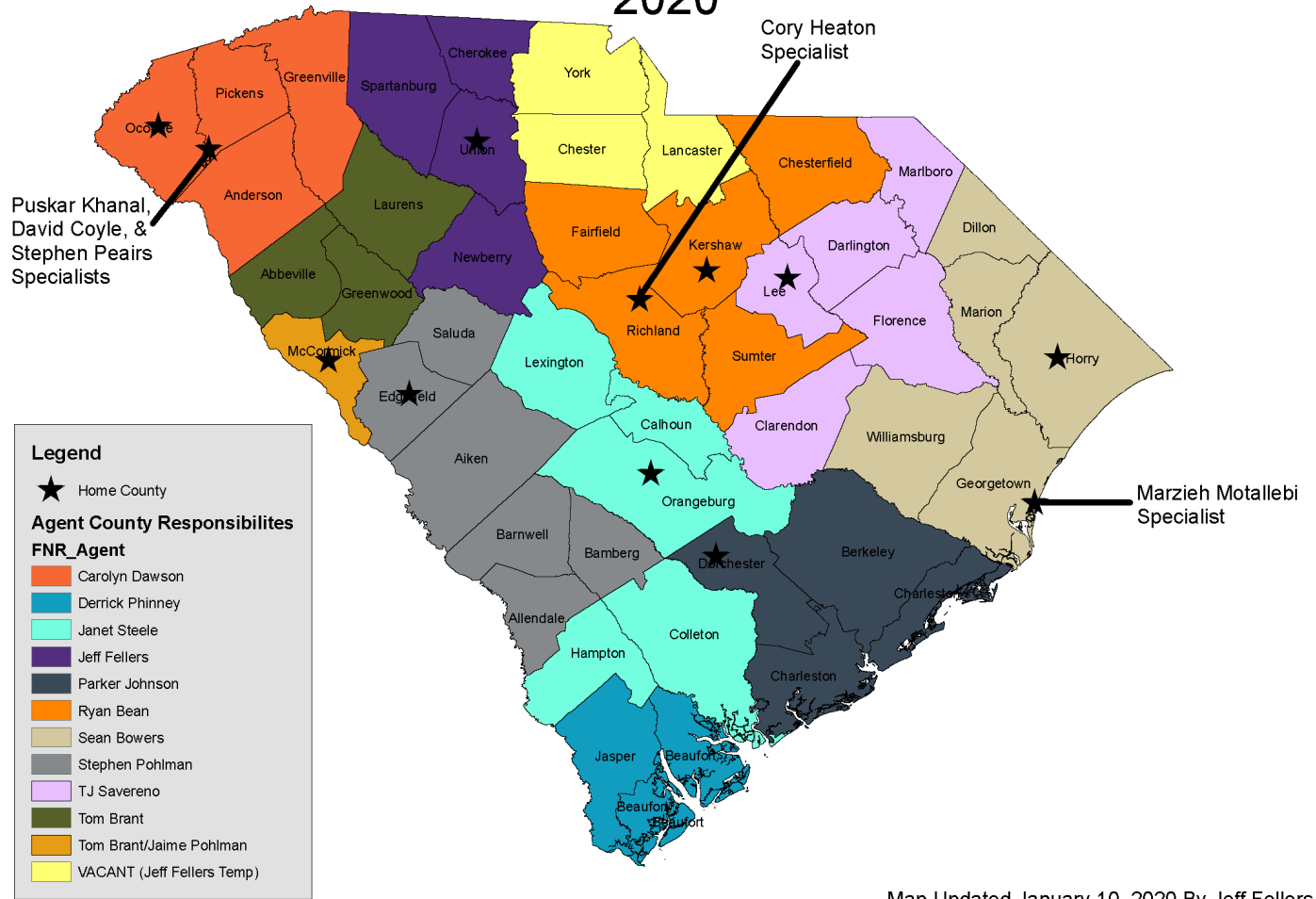
Data credit:

The sawtimber and pulpwood price data included in this newsletter are published with permission from TimberMart-South Athens, GA 30605 email tmart@timbermart-south.com.

References:

<https://forisk.com/blog/2021/04/07/why-are-timber-prices-low/>

Forestry & Wildlife Agent Coverage Across South Carolina 2020



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