Timber Tales

ISSUE NO. 173:
WINTER/SPRING 2022

LSU AgCenter
Research · Extension · Teaching

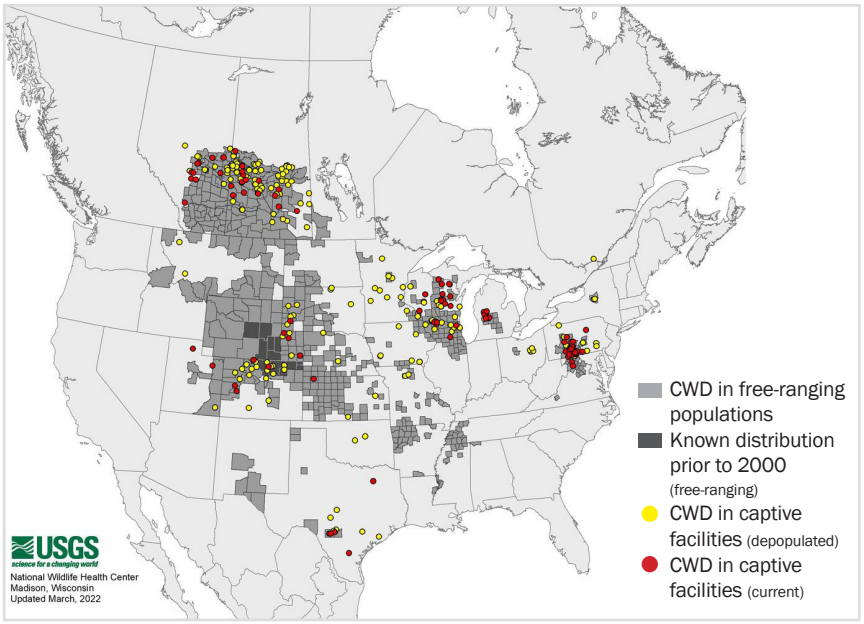


Figure 1: Map with distribution of chronic wasting disease in North America as of March 2022 (www.usgs.gov/media/images/distribution-chronic-wasting-disease-north-america-0). All locations are approximations based on best-available information.

Chronic wasting disease update

By Ashley M. Long

Chronic wasting disease (CWD) negatively affects the nervous systems of white-tailed deer, mule deer, red deer, elk, moose and other cervids. It is one in a group of diseases called transmissible spongiform encephalopathies, which includes bovine spongiform encephalopathy in cattle (otherwise

Continued on Page 2

Spend more time outdoors in 2022!

If you've pledged to focus on your health in the new year, exercise your mind and body in the great outdoors! Here are some ideas for 2022:

- Visit the Kisatchie National Forest (www.fs.usda.gov/kisatchie); a state wildlife management area, refuge, or conservation area (www.wlf.louisiana.gov/page/wmas-refuges-and-conservation-areas); one of Louisiana's national wildlife refuges (www.fws.gov/refuges/profiles/ByState.cfm?state=LA); or a local park. Be sure to take along your tree and wildflower guides or download an app for your mobile device to help you identify the beautiful native plants that are found throughout the forest. Search for publication No. 3662 on the LSU AgCenter website (www.lsuagcenter.com) for a list of nature guides you can download.

Continued on Page 3

Continued from Page 1

known as “mad cow disease”) and scrapie in domestic sheep and goats. The disease is caused by misfolded proteins (prions) that are replicated by host animals. The prions interrupt and degrade nerve cells and ultimately eliminate basic nervous system functions, always resulting in death of the infected host. To date, there are no vaccines to prevent infection, and once an animal is infected, there are no effective treatments.

Symptoms of CWD include emaciation or generally poor body condition; decreased activity or erratic behavior; wide, low stances and blank expressions; excessive drinking and urination; and salivation and grinding of teeth. These symptoms appear 16 to 36 months after infection but are common to many wildlife diseases. Thus, diagnosis of CWD requires laboratory testing. CWD is spread among infected animals by direct and indirect contact with saliva, urine, feces or a carcass. These prion-carrying sources are deposited on the ground and in the soil and can be picked up by other animals during foraging. Reservoirs of prions in the environment (e.g., plants) may also enable transmission. Although mother-offspring transmission is possible, lateral transmission between two animals is the typical route for infection.

CWD has been reported in all adjacent states and was detected in Union County, Arkansas, just 7.5 miles north of the Louisiana-Arkansas border, in late 2021 (Figure 1). In response, the Louisiana Department of Wildlife and Fisheries (LDWF) implemented an emergency feeding and baiting ban in Morehouse and Union parishes effective Dec. 6, 2021. LDWF found no evidence of CWA after testing more than 300

A deer stricken with chronic wasting disease. Photo by Terry Kreeger.

samples from Morehouse and Union parishes and lifted the baiting ban in early January. However, in early February 2022, LDWF reported its first case of CWD in northeast Tensas Parish. In response, officials implemented a supplemental feeding and baiting ban as well as deer carcass export restrictions in Tensas, Franklin and Madison parishes that remains in place as of early March 2022. The public can find more information about this Declaration of Emergency order by the Louisiana Wildlife and Fisheries Commission on LDWF’s website.

Public health and wildlife officials advise hunters to:

- Harvest only healthy-looking animals.
- Wear latex or rubber gloves while field dressing harvested animals.
- Bone out carcasses in a way that removes all nervous system tissue.
- Minimize handling of brain and spinal tissues.
- Wash hands and disinfect tools with a 50:50 solution of chlorine bleach and water after field dressing is complete.
- Avoid eating tissues associated with the brain, spinal cord, eyes, tonsils and lymph nodes.
- Bury carcasses at least 6 feet deep or dispose of them in approved landfills to prevent exposing other susceptible animals to infected material.

Continued surveillance is key and could help wildlife biologists identify changes in patterns of disease occurrence over time. If you see an animal you think might have CWD, do not attempt to touch, kill or move the animal in any way. Instead, carefully document the animal’s location and any other pertinent details, then immediately contact the nearest game warden or wildlife biologist who will obtain samples from the animal. You can find more information on websites and social media hosted by LDWF, the CWD Alliance (https://cwd-info.org/), the National Cooperative Extension Working Group for CWD Education, the LSU Forestry and Wildlife Extension Facebook Page, and in LSU AgCenter Fact Sheet No. 3623.

AgCenter file photo.

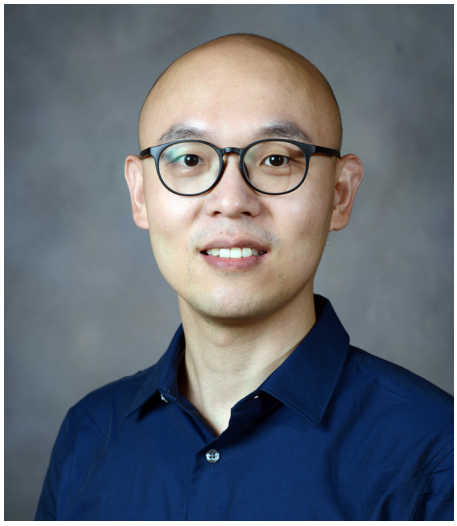
Continued from Page 1

- Grab your fishing pole and head out to your favorite spot. If you are hauling a boat, be sure to check your trailer for rust and weak spots, and make sure that your wheels, lights and hitch are working properly. You can find more information on boat trailer maintenance on the LSU AgCenter website by searching for publication No. 2557.
- Celebrate Arbor Day by planting a tree on your property, volunteering with a local tree-planting organization, visiting a botanical garden or arboretum, or taking a nature walk.
- Learn how to identify and control for invasive species in the state, then manage for these species on your own property or assist with local efforts. Louisiana is home to a plethora of nonnative plants and animals that cause substantial ecological and economic damage to our natural resources each year. Examples include feral pigs, water hyacinth, nutria, cogongrass, Chinese tallow and apple snails. Any contribution to removal helps, and regardless of which species you focus on, you will be sure to get plenty of exercise while you're at it!
- Step out at night to do a little stargazing. If you'd like a guided tour of our night sky, many of our state's universities have observatories with public events, or you can contact your local astronomical society for their monthly viewing schedule. If you prefer to look for stars and planets on your own and you have internet access, check out an interactive night sky map, which will tell you what is visible in the night sky at your location and help you track its movements across the sky. No internet? No problem. Grab a book from your local library and enjoy!
- Start planning for your warm-season food plots. While most warm-season plantings for deer occur between April and June, early spring is a great time to get a head start examining the natural conditions of your habitat, identifying a good location for your plots, testing and prepping your soil, and deciding which species to plant. While you are out on the land, be sure to record your wildlife observations so that you can identify and track any changes that occur in response to your plantings over time.

LSU AgCenter welcomes new forest economist

Jinggang Guo recently joined the LSU AgCenter as an extension forest economics specialist and assistant professor in the Department of Agricultural Economics & Agribusiness. In this role, he will conduct research and develop extension programming to help stakeholders in Louisiana manage their timber resources and understand timber markets and price trends at the local, national and global scales.

"This position gives me a unique opportunity to put my theoretical knowledge into practice and involve myself in improving forest landowners' well-being," Guo said. "I focus on programs that provide



Guo

in-depth resource and economic analysis for the forest industry in Louisiana and the development of forest-based markets and methods to utilize woody resources."

Guo holds a Ph.D. in forest economics from the Swedish University of Agricultural Sciences. After graduation, he worked at the University of Wisconsin, Madison, as a postdoctoral researcher. His primary role there was to help the U.S. Forest Service develop a new global forest products trade model to predict future markets as they relate to alternative socioeconomic trends. Before joining the AgCenter in 2021, he worked for the U.S. Forest Service and RTI International, where he designed economic models to help inform climate and energy policy decisions.

Summary of LSU AgCenter's hurricane damage report

By Jinggang Guo

Hurricane Ida made landfall with lashing rain and fierce gusts on Sunday, Aug. 29, 2021 — 16 years after Hurricane Katrina made landfall in Louisiana. The storm brought severe damage to the region's timber industry, destroying 167,622 acres of forestland in 11 parishes. An estimated 181 million cubic feet of timber were affected, including 86 million cubic feet of pine timber and 95 million cubic feet of hardwood timber. The highest timber volume losses were in Tangipahoa (88 million cubic feet) and Livingston (33 million cubic feet) parishes.

Using the second-quarter average timber stumpage prices from the Louisiana Quarterly Report of Forest Products, the value of total damage was estimated at $316 million, with $130.5 million in losses attributed to pine timber and $185.5 million in losses attributed to hardwood timber. The short-term losses were felt unevenly across Louisiana. Tangipahoa Parish had timber damage amounting to $147 million, which was almost equally distributed between pine timber ($74 million) and hardwood timber ($73 million). Livingston Parish had the second-highest economic loss at $66 million. For more information on detailed hurricane damage report, visit www.lsuagcenter.com.

Salvage logging is a common way to get the most monetary value out of downed timber. However, Tropical Storm Nicholas came just two weeks after Hurricane Ida and added more water to these areas, making the salvage harvest more difficult. Tons of timber had to be left to rot, significantly raising concerns about the risk of forest fires.

As of Oct. 28, 2021, Federal Disaster Assistance in Louisiana exceeded $2 billion according to FEMA's website. Disaster survivors have received more than $889 million in federal grants and have been approved for more than $816 million in low-interest loans to enhance their recovery. Another $297 million has been paid to survivors in National Flood Insurance Program claims. See the FEMA press release at https://www.fema.gov/press-release/20211028/federal-disaster-assistance-louisiana-exceeds-2-billion-two-months-after.

Louisiana Stumpage Report

Third Quarter 2021

The stumpage prices below are statewide averages and are intended to demonstrate the general trends in the market. The current value of timber can differ greatly across parishes, species, tree quality, market access and other factors. Forest landowners considering a timber sale are encouraged to contact a consulting forester for assistance. Average stumpage prices for the six major products for the third and fourth quarters of 2021 were reported as follows:

Average stumpage prices*($/ton) Q2-Q4/2021

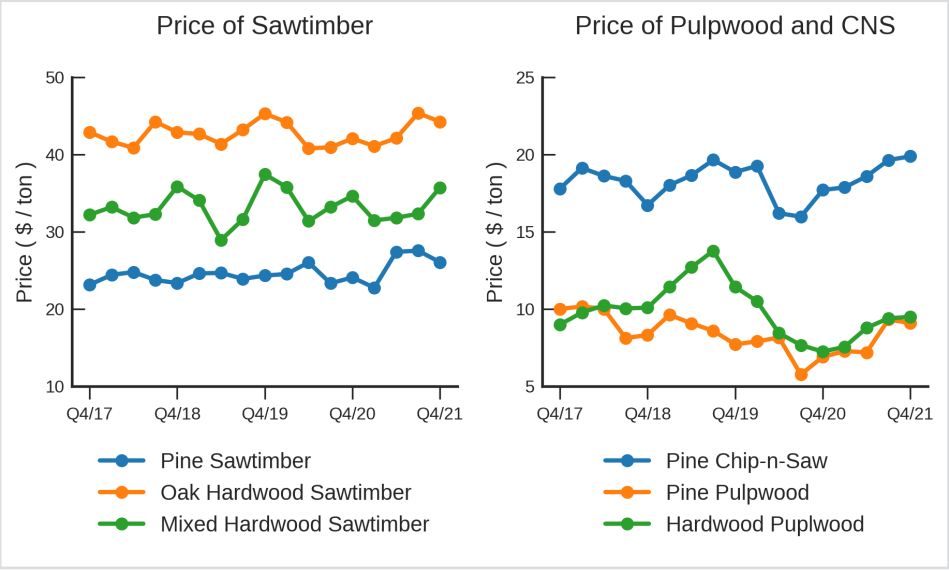
	Q4/2021		Q2/2021	Q4-Q3 % Change	Q3-Q2 % Change
Pine Sawtimber	26.05	27.55	27.39	-5.44	0.58
Oak Sawtimber	44.25	45.35	42.11	-2.43	7.69
Mixed Hardwood Sawtimber	35.73	32.33	31.80	10.52	1.67
Pine Chip-n-Saw	19.88	19.64	18.59	1.22	5.65
Pine Pulpwood	9.09	9.31	7.19	-2.36	29.49
Hardwood Pulpwood	9.48	9.40	8.77	0.85	7.18

Compiled by Jinggang Guo.

**Oak sawtimber includes both red oak and white oak species. The sawtimber and pulpwood price data included in this newsletter are published with permission from TimberMart-South Athens, Georgia. Contact TimberMart-South via email at tmart@timbermart-south.com. — This document is intended for use by forestry stakeholders of Louisiana. The source of these prices is proprietary in nature.*

Market Trends

Hurricanes often create a negative impact on the prices of timber because there may be a large influx of salvage on the market. However, this was not the case for Hurricane Ida. The prices of all six major timber products continued their upward climb in third quarter of 2021 compared to the second quarter of 2021. Weather conditions played a crucial role in the price increase. Hurricane Ida and the following Tropical Storm Nicholas made the harvest and salvage operations more difficult and depressed the timber supply.



A general upward trend did not continue from the third quarter. The timber market in Louisiana showed a mixed picture in the fourth quarter of 2021, with three major products higher than last quarter and three major products lower than last quarter. The prices of pine sawtimber and oak sawtimber fell by 5.4% and 2.4% to $26.05 per ton and $44.25 per ton, respectively. The mixed hardwood stumpage price was up to $35.73 per ton in the fourth quarter of 2021, more than $3.4 per ton above last quarter's average. The pine chip-n-saw price continued to climb up from the third quarter of 2020, averaging at $19.88 per ton. Pine pulpwood price experienced a slight drop to $9.09 per ton. The hardwood pulpwood market was relatively stable, with average stumpage prices at $9.48 per ton.

Limiting effects of cold weather on fruit, nut trees

By Keith Hawkins

Our friends in horticulture typically discuss the topic of food trees, but many of Louisiana's forest landowners experienced damage to the fruit and nut trees in their home landscapes following the "big freeze" of February 2021. Many have asked for more information about how cold temperatures affect food trees and how they can limit damage to their fruit and nut trees in the future.

Beginning with citrus, choosing a cold hardy variety based on the conditions where you live can help you avoid freeze damage that occurs when temperatures stay below freezing for more than a couple days.

Here is a list of citrus fruits and their respective cold tolerance:

- Kumquat (can tolerate temperatures under 20 degrees Fahrenheit).
- Satsuma (can tolerate temperatures in the low 20s degrees Fahrenheit).
- Oranges, grapefruit, lemon (have a cold tolerance between 22–27 degrees Fahrenheit).
- Lime (can tolerate temperatures down to 29 degrees Fahrenheit).

When planting citrus, Ben Salley of the Simply Citrus Nursery in Columbia, South Carolina,

Continued on Page 7

	Freezing Temperatures at LSU AgCenter Research Stations, 2/21		
	Red River RS	Dean Lee RS	Hammond RS
2/15/21	7 degrees F	17degrees F	22 degrees F
2/16/21	1 degree F	12 degrees F	20 degrees. F

Continued from Page 6

recommends siting citrus trees on the south side of a wall or a dense tree so they get plenty of sunshine and are protected from north breezes. In addition, research conducted by the LSU AgCenter suggests that citrus trees growing on bare ground have a higher probability of survival than citrus trees growing in turf areas because heat from the ground can radiate upward into the canopy.

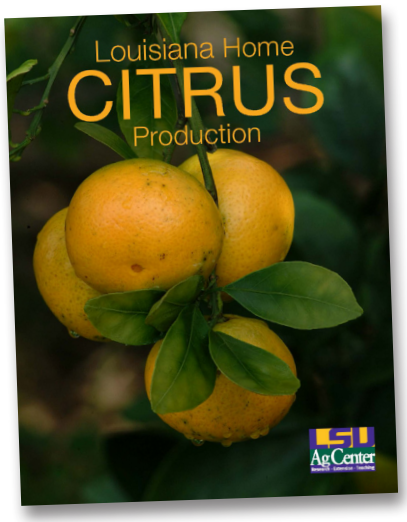
Bobby Fletcher, a former horticulturist with the AgCenter, shared these methods for protecting citrus when the temperature will be below 27 degrees Fahrenheit for an extended period:

- Entirely cover the plant with a frost cloth, sheet or blanket; make sure the cover does not touch the foliage.
- Extend the cover all the way to the ground.
- Remove the cover the next morning when the temperatures begin to rise.

You can also install small lights (e.g., Christmas lights) on the trees to increase the temperature around branches and foliage. Use traditional lights, not LED.

If you suspect your citrus trees have sustained injuries due to a freeze, wait to prune them until mid-spring when you can assess the full extent of the damage. Pruning the trees too early can be counterproductive because it may stimulate bud activity before the cold weather and threat of additional freezing temperatures has passed.

The LSU AgCenter has a free downloadable guide to home citrus production in Louisiana that you can find by searching for publication ID: 1234 at lsuagcenter.com. The

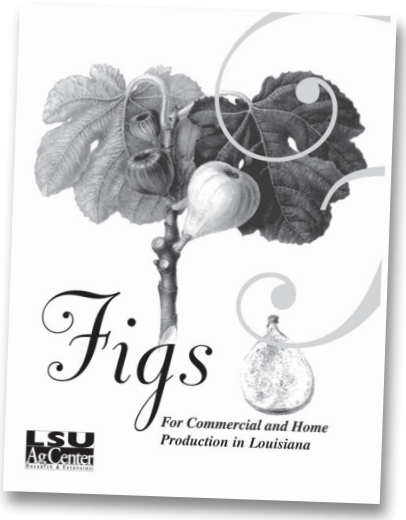


AgCenter also offers a free online course with information about freeze damage symptoms and recovery at https://www.lsuagcenter.com/topics/lawn_garden/master%20gardener/the-backyard-orchard-school/home-citrus.

Figs are also susceptible to freeze damage in Louisiana. Like citrus, some varieties are more cold hardy than others. This list ranks some fig varieties on a scale from 1 to 5, with 1 being most susceptible to freezing temperatures and 5 being least susceptible to freezing temperatures:

Variety	Cold Injury Rating
Celeste	4.5
LSU Gold	4.2
Hardy Chicago	3.5
Magnolia	2.5
LSU Purple	1.0
Florentine	1.0

The steps to protect citrus are also applicable to figs. In addition, a gardener who grew up in Louisiana enjoying fresh figs and later moved to Missouri shared with us that he keeps his fig trees in large containers on plant caddies, then moves his trees into his garage during the winter months.



The LSU AgCenter also has a free downloadable guide to commercial and home fig production in Louisiana you can find by searching for publication ID: 1529 on lsuagcenter.com.

If you've successfully nurtured your citrus and fig trees during heavy freezes, you may want to try your hand at growing macadamia nut trees. Macadamia trees are native to Australia and named after John Macadam, a noted scientist and secretary of the Philosophical Institute of Australia in 1857. These evergreens are relatively hardy and tolerate mild freezing (28–32 degrees Fahrenheit), but like citrus and figs in Louisiana, may require some protection during the winter. You can find more information by searching for the blog post titled "Macadamia as an Alternative Crop in Florida" by Karen Stauderman, a horticulture agent with the University of Florida, which outlines some biology and history of macadamia in the U.S.

You can also receive more information by emailing LSU AgCenter forestry extension agent Keith Hawkins at khawkins@agcenter.lsu.edu.

Monitor the amount of forage inside and outside of the cage. If vegetation growth inside the cage is much higher and more productive than outside the cage, then your deer numbers are likely on the higher side. Photo by Luke Stamper.

Using exclusion cages as a tool for forage management

By Luke Stamper

I often receive calls from clients after cool- and warm-season plantings who ask, “Why is my food plot not performing as expected?” There is no one-size-fits-all answer for food plots, but in this article, I hope to provide a starting point for observations that you can make to improve the outcome of your forage management program.

One problem with food plots is that biomass is constantly being removed from the area by deer and other critters, leaving land managers with an inaccurate picture of how well the planted area is performing. This is especially true for areas with high deer densities where plant establishment is somewhat nonexistent due to the number of mouths feeding on newly emerged vegetation.

A simple solution to this common problem is to design, construct and install an exclusion cage within the boundaries of your food plot. An exclusion cage is meant to do just as the name suggests — exclude animals from grazing a certain area. The land manager can then compare forage productivity in areas with and without grazing pressure and use the information to make decisions about food preferences.

Exclusion cage designs vary, but there are some general requirements for the exclusion cage to function

Continued on Page 11

Exclusion cages can help land managers examine forage selectivity and gain a better understanding of what deer prefer on your property. These exclusion cage demonstrate that sunn hemp, cowpeas and soybeans were eaten.

Part 1 of forest landowner basics: The value of timber cruises

By Robbie Hutchins

Heraclitus, the Greek philosopher, is quoted as saying, "Change is the only constant in life." Whether Heraclitus made that statement or not, the sentiment is as applicable to our forests and forest management as it is to all other areas of our lives. Sometimes in forestry, change is gradual, and we have time to adjust our silvicultural activities as needed to keep our forests healthy and our trees growing on schedule. Other times, change in our forests occurs suddenly, as we experienced firsthand with hurricanes Laura and Delta in 2020 and Hurricane Ida in 2021, and we must adapt quickly to realize the best possible outcome.

Whether the change is slow or sudden, big or small, our goal as knowledgeable forest landowners is to manage our forest land investments in an ever-changing environment. But how do we do that? How do we make educated, practical decisions that enable us to manage through change? Are there any tools or professionals that can help forest landowners prepare for change before the change occurs?

I have good news for forest landowners. There are basic tools we can use as well as valuable professionals with the information we need. Much of this information can be acquired well before the change occurs. In Part 1 of our Forest Landowner Basics series, we'll cover the nuts and bolts of a timber cruise and explain the value of a recent timber cruise as it relates to change. Then in follow-up articles, we'll review how and why we should use the information we gain from a cruise to establish a timber basis on our tracts, how professional foresters can assist us with our efforts and what we should consider when selecting a forester for the job and more.

Want to learn more about timber basis and knowing how your timber basis can help you through times of change? Join us for Part 2 of Forest Landowner Basics in the next issue of Timber Tales!

Getting started with our first topic, a timber cruise is a statistical sample conducted by a forester that is designed to locate and estimate the quantity of timber on a specific land at a specific point in time. Cruises vary in intensity depending on many factors, such as the size of the tract, uniformity of the timber in the stand, amount of time or money allocated for the cruise, the amount and type of information desired from the results of the cruise. For example, during a timber cruise with 100% intensity, every tree on every acre of the property is measured, but during a 5% cruise, only trees growing on 5% of the property are measured and the results of the 5% sample are extrapolated to estimate the timber on the rest of the property.

Foresters can use fixed radius plots, variable radius plots or strips with a predefined width to sample the timber on a tract. During a cruise, foresters record different attributes of the individual trees growing in the designated sample areas. The important attributes of each tree that are usually recorded include the species, size (diameter at breast height [dbh] and height), the tree's quality or grade and the tree's expected product type or use. During a cruise, foresters can also gather useful information about the tract, including spatial data for creating maps of the property, and they may assess wildlife habitat conditions, survey for endangered species or other nontimber resources (e.g., medicinal plants), look for signs of illegal activities (e.g., timber theft) and record many other details the landowner may want to know about their stand.

If this all just sounds like forestry lingo, think of a timber cruise like a snapshot of your timber stand at one time in its life cycle. A cruise is kind of like a family photo. You get some useful information worth remembering, but if the same people are photographed in a few years, everyone will look different. That is why neither a cruise nor a family photo should be a one-time event. We usually take family photos at milestones like birthdays, weddings and anniversaries. We do that because we want to have a record to help us relive or remember the event and to provide others with a visual of the event we described.

Because a timber cruise is basically a snapshot of our stand, it is logical that we should get our timber cruised intensively at each important milestone for the stand. The first important milestone is within one year of acquiring the tract. This cruise should happen whether the forestland was purchased or inherited. This initial cruise is important because it gives you the information you need to develop a management plan for the stand, and it provides information you need to determine your timber basis for the tract.

Continued on Page 11

Continued from Page 10

The second important time for landowners to have their timber stands intensively cruised is within one year prior to any scheduled harvests. This timing allows a landowner to have an estimate of the anticipated timber volume by product class that will be harvested from the tract and an estimate of the monetary value of the timber that will be harvested from the tract. This information is equally important for all timber sales regardless of whether the timber will be sold in a lump-sum timber sale or in a pay-as-cut timber sale.

Other verification cruises should be considered in addition to these milestone cruises. These cruises can be lower intensity cruises and should be done to verify that management goals and projections are being reached. Often these types of cruises are done during or immediately after some type of harvest operation and are included as part of a forester's duties of contract supervision and verification.

When the data collected from a cruise are calculated, the forester will present the landowner with the results of the cruise in a report designed to be both useful and easy to read. A quality cruise will provide the landowner with details, which include total volume for the tract, total timber value for the tract, average volume per acre, timber value per acre, spatial distribution, species distribution, diameter distribution, product classes and any other details requested by the landowner.

Information gained from a cruise provides the quantitative information needed for the forester and the landowner to develop a detailed forest management plan, which can help guide the landowner's short-term and long-term management decisions. In addition, a well-written management plan provides continuity when the timber is passed to future generations. A forest management plan also demonstrates to the Internal Revenue Service that the forestland is managed actively as a business and not passively as a hobby.

As I previously mentioned, perhaps the most important milestone to conduct a cruise is within one year of the acquisition of the tract. For most landowners who acquire forestland through a purchase, this cruise is typically conducted as part of the purchase process, but that is not always the case. This initial cruise should be done whether a tract was purchased or inherited because the information from this cruise can be used to establish the timber basis for property acquired by purchase or to determine the stepped-up timber basis for property acquired by inheritance.

Continued from Page 9

properly. First, when excluding deer, the caged area must be high enough — roughly 4 to 5 feet — to keep deer from leaning over the side to feed and small enough in diameter to keep deer from jumping inside of the protected area. I personally construct my exclusion cages to cover approximately 16 square feet. Next, the wire material used to construct the exclusion cage should be small enough to keep deer from putting their heads through the side to access forage. In addition, the cage should be securely staked down with rebar or T-posts fastened to the cage by wire or heavy-duty zip ties.

The shape of your exclusion cage isn't that important if you cover the basics I mentioned above. However, circular cages tend to be the easiest and cheapest option because they can be fastened at a single point compared to a square design, which will need to be secured at the four corners.

Once your exclusion cage is installed, you can monitor the amount of forage inside and outside of the cage. If vegetation growth inside the cage is much higher and more productive than outside the cage, then your deer numbers are likely on the higher side. You could remedy this by adjusting your harvest quotas, managing native vegetation and increasing the area of your food plots. If forage heights inside and outside the cage are similar, then the opposite may be occurring.

You can also use exclusion cages to examine forage selectivity by deer and gain a better understanding of what deer prefer on your property. The exclusion cage shown in figures on Page 9 demonstrates that sunn hemp, cowpeas and soybeans were selected first out of the 12-species warm-season blend. This type of insight can help you customize your own blend.

Finally, exclusion cages allow a land manager to assess whether they've successfully established a food plot, which may be one of the greatest benefits if you aren't able to observe the plot on a regular basis. Instead of wondering whether it was fall army worms, lack of moisture, low seeding rates or too much pressure from deer that caused an undersirable outcome, the manager can simply make comparisons inside and out of the established exclusion cages to determine the issue and identify a solution.

It's never too late to install exclusion cages across your plots. I encourage you to do so and begin monitoring the forage that you worked hard to put in place.


Getting to know
laurel wilt

By Raj Singh

Laurel wilt is a devastating disease of woody trees in the *Lauraceae* family. Trees currently susceptible to laurel wilt include avocado, California laurel, camphor tree, pondberry, pondspice, redbay, sassafras, swampbay and spicebush. Laurel wilt was first confirmed in Louisiana in 2014 on mature sassafras trees in Union Parish. Since then, the disease has spread to Beauregard, Bienville, Claiborne, Grant, LaSalle, Lincoln, Natchitoches, Ouachita, Rapides, Sabine, Vernon and Winn parishes.

The disease is caused by a fungus called *Raffaelea lauricola* that clogs the vascular (xylem channels) system of the tree and interrupts the water supply. As a result, the affected tree wilts and eventually dies. Initial symptoms of laurel wilt are rapid wilting and drooping (flagging) of leaves. Leaves on affected twigs may exhibit marginal necrosis due to lack of water. As the disease progresses, infected trees exhibit reddish to purplish-brown discoloration of foliage until the entire canopy turns brown (Figure 2). Brown leaves do not defoliate immediately and tend to remain attached to the branches for a period of one year or more in the case of redbay trees, but brown leaves drop readily in other host trees. Removal of bark from infected trees reveals discoloration of sapwood (Figure 2).

The fungus is carried from infected to healthy trees by the invasive redbay ambrosia beetle (*Xyleborus glabratus*). The pathogen may also spread from infected trees to neighboring healthy trees through grafting roots. In addition, both the beetle and the fungus may spread to new locations indirectly when people move infested firewood from areas where laurel wilt and redbay ambrosia beetles are prevalent.

Redbay ambrosia beetles are brown to black in color and very small (2 mm) in size. Initially, the redbay ambrosia beetles may attack the branches, and the infested trees may not look wilted. Later, the trees start to wilt, and tubes of fine sawdust that look like toothpicks and are produced by ambrosia beetles can be seen on the diseased tree trunks. The sawdust toothpicklike tubes may easily wash away with rainwater and may not be present on infected trees after a downpour. Tiny entrance holes created by redbay ambrosia beetles are present on small branches as well as the trunk of diseased tree.

Rapid and early disease detection and removal of infective trees is the most effective management strategy to combat laurel wilt. After removal, burn the diseased trees or dispose of them properly to prevent further

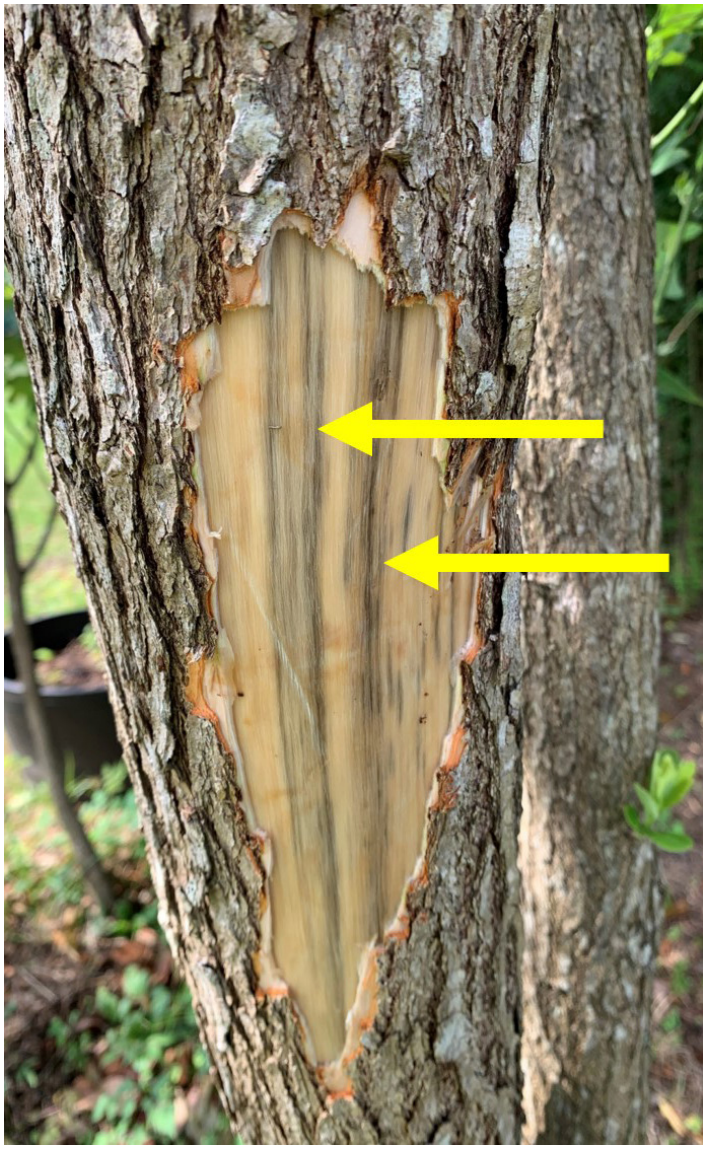


Figure 1. On the previous page, a group of dead sassafras trees with brown leaves infected with laurel wilt caused by *Raffaelea lauricola*. Figure 2. Above, discoloration of sapwood of a sassafras tree infected with laurel wilt. Photos by Raj Singh.

disease and beetle spread. Avoid moving firewood from areas where laurel wilt and redbay ambrosia beetles are prevalent or known to occur. When it comes to firewood, remember to buy locally and burn locally!

Please note that early symptoms of laurel wilt can be easily misdiagnosed with the damage caused by the black twig borer (*Xylosandrus compactus*). The black twig borer attacks small diameter branches and causes death (flagging) of infested branches. If you notice symptoms of laurel wilt on susceptible host trees listed above, please contact Raj Singh at 225-578-4562 or by email at rsingh@agcenter.lsu.edu.

Raj Singh is the director of the LSU AgCenter Plant Diagnostic Center.

Hurricane recovery meeting held for Florida Parishes affected by Hurricane Ida

By Whitney Wallace

Hurricane Ida made landfall in Louisiana on Sunday, Aug. 29, 2021, as a Category 4 hurricane, seriously damaging large areas of forests in the southeastern portion of the state. Whitney Wallace, LSU AgCenter Southeast Region forestry and wildlife agent, coordinated a hurricane recovery meeting for landowners in the Florida Parishes who sustained timber losses from Ida. Wallace welcomed close to 100 participants for the all-day Nov. 18 meeting held at the Spring Creek Milling Building in Kentwood. The meeting included landowners and tree farmers from Tangipahoa, St. Helena and Livingston parishes as well as experts and professionals from around the state to help give landowners the resources and information they need to deal with storm-damaged timber.

Paul Spillers, a tax attorney, estate specialist and tree farmer kicked off the meeting. "There is hope for landowners with either help from federal or state partners for direct assistance or tax savings via timber casualty loss deductions," Spillers said. Spillers stressed the importance of having a consulting forester evaluate purchased property to establish optimal timber tax basis.

C.A. "Buck" Vandersteen with the Louisiana Forestry Association (LFA) addressed the crowd and let them know that the LFA is fully supportive of landowners who may have experienced timber damages sustained during Hurricane Ida. Vandersteen said the LFA is working with the Louisiana Department of Agriculture and Forestry (LDAF) and the LSU AgCenter to coordinate efforts and get the forests back in shape.

About 100 participants attended a hurricane recovery meeting Nov. 18 in Kentwood. LSU AgCenter photo.

Wade Dubea, state forester with LDAF, explained the process of calculating the widespread damage. Dubea stated the LDAF acted quickly after the storm and arranged a flyover across parishes hard hit by the storm to get an aerial view of the damage days after. With the help of the U.S. Forest Service and the LSU AgCenter, they were able to estimate that Hurricane Ida caused severe damage to 167,622 acres of forestland in 11 parishes in Louisiana. Roughly 57,000 acres had more than 50% damage and 47,402 acres had 30% to 50% damage. An estimated 181 million cubic feet of timber were affected, with 86 million cubic feet of pine timber and 95 million cubic feet of hardwood timber. The parishes with the highest timber volume losses in southeast Louisiana were Tangipahoa (88 million cubic feet) and Livingston (33 million cubic feet).

Continued on Page 15

Continued from Page 14

Jinggang Guo, forest economist with the LSU AgCenter, provided an overview of Ida's damage to the timber industry. Guo said that as we move forward from the storm, the next task is to determine what is salvageable from the damaged areas. Salvaging usable timber will help mitigate the economic loss, prevent damage from insects and disease, and reduce the risk of fires posed by downed limbs and trees. He noted that Hurricane Ida caused significant infrastructure damage throughout most of its path, which has likely created significant impacts on the costs of production and profitability of mills and loggers.

Rick Williams, Louisiana State Forester with the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), spoke to landowners about their losses. "NRCS can be an instrumental partner supporting landowners with their recovery efforts. Our staff will work one-on-one with landowners to make assessments of the damages and create plans that focus on effective recovery of the land," Williams said. NRCS is always available to provide technical assistance in the recovery process by assisting producers to plan and implement conservation practices on farms, ranches and working forests impacted by natural disasters. One of the programs Williams talked about, the Environmental Quality Incentives Program (EQIP), can help producers plan and implement conservation practices on land impacted by natural disasters.

Patrick Babineaux, county executive director with the Farm Service Agency (FSA), spoke to landowners about FSA's Emergency Conservation Program (ECP) and Emergency Forest Restoration Program (EFRP). He explained these programs

Jinggang Guo, forest economist with the LSU AgCenter, speaks to forest landowners and land managers at a hurricane recovery meeting. LSU AgCenter photo.

Sponsors supporting this gathering included the Kentwood Co-op, Weyerhaeuser and Soterra. For more information, please contact Whitney Wallace at wwallace@agcenter.lsu.edu.

can assist landowners and forest stewards with financial and technical assistance to restore fencing, damaged farmland or forests. EFRP provides payments to eligible owners of nonindustrial private forestland (NIPF) to enable them to carry out emergency measures to restore land damaged by a natural disaster. Eligible forest restoration practices include debris removal and site preparation and materials to replant forest land. "FSA remains committed to helping landowners and producers impacted by Hurricane Ida," said Babineaux, and he encouraged all eligible producers to contact their county office as soon as possible to make an appointment to apply.

Robbie Hutchins, AgCenter extension forestry agent for the Southwest and Central regions of the state, spoke to landowners about lessons learned from hurricanes Laura and Delta. Hutchins gave advice from checklists for removing shade trees and steps for calculating loss of timber. Hutchins urged landowners to have patience and not to make rash decisions. "Now is the time when a good consultant forester and a knowledgeable C.P.A earns their money. Talk to them and listen to what they have to say," he said.

The final speaker to wrap up the afternoon was local certified public accountant Bruce Harrell with Bruce Harrell and Co. in Kentwood. Harrell gave tax planning advice for landowners suffering timber losses in revenue from Ida. Landowners learned about different categories and types of forestry landowners, casualty losses and general rules for capital gains and losses.

Landowners were reminded by all the speakers not to make hasty decisions when dealing with storm-damaged timber. With a little work and planning, damaged stands can be brought back, and within a few years it is hard to tell they were ever damaged. In addition, assistance is available. Wallace wrapped up the meeting, thanking the Tangipahoa and St. Helena parish forestry associations for hosting the event.

LSU AgCenter
101 Martin D. Woodin Hall
Baton Rouge, LA 70803

Visit our website: www.LSUAgCenter.com

Luke Laborde, Interim LSU Vice President for Agriculture
Louisiana State University Agricultural Center
Louisiana Agricultural Experiment Station
Louisiana Cooperative Extension Service
LSU College of Agriculture

3688-22W (400) 3/22

For more information, visit this website:
www.lsuagcenter.com/topics/environment/forestry.

Area Specialists:

Northwest: Dr. Valerie West
vwest@agcenter.lsu.edu
Office: 318-965-2326

Northeast: Lucas Stamper
lstamper@agcenter.lsu.edu
Office: 318-649-2663

Central/Southwest:
Robbie Hutchins
rhutchins@agcenter.lsu.edu
Office: 318-767-3968

Southwest: Keith Hawkins
khawkins@agcenter.lsu.edu
Office: 337-463-7006

Southeast: Whitney Wallace
wwallace@agcenter.lsu.edu
Office: 985-748-9381

Forest Economist: Dr. Jinggang Guo
jguo@agcenter.lsu.edu
Office: 225-578-3282

Wildlife: Dr. Ashley Long
amlong@agcenter.lsu.edu
Office: 225-578-4940

Forest Products: Dr. Richard Vlosky
rvlosky@agcenter.lsu.edu
Office: 225-578-4527

Urban Forestry: Dr. Hallie Dozier
hdozier@agcenter.lsu.edu
Office: 225-578-7219

Forest Products and
Prescribed Fire:
Dr. Cornelis De Hoop
cdehoop@lsu.edu
Office: 225-578-4242