

Timber Tellings

TREES STILL STRUGGLING WITH EFFECTS OF DROUGHT, LEADING TO MUTED FALL COLORS, POTENTIAL FOR PESTS

Texas A&M Forest Service

A summer without significant rain could lead to an autumn without significant fall colors.

Despite some late summer rain, much of Texas remains abnormally dry or in some stage of drought, and trees across the state are continuing to show signs of stress.

This fall is expected to be warmer and drier than average, and combined with the effects related to the lingering drought that means this year’s fall foliage may be less vibrant than usual.

“Many trees put on fewer, smaller leaves this spring or started to change color or prematurely drop their leaves in the summer,” said Karl Flocke, Texas A&M Forest Service Woodland Ecologist. “All of this will most likely lead to fall colors that are less impressive than in years past.”

Deciduous trees drop their leaves in the fall to conserve energy. Normally, fall colors start showing when the green chlorophyll in the leaves begins breaking down.

“However, due to the drought, some trees have already defoliated,” said Courtney Blevins, Texas A&M Forest Service Urban Forester. “Others still have their leaves, but they are dead and brown. These trees obviously will not be giving us any fall colors to enjoy this year.”

The best opportunity to see fall foliage at its peak in Texas will be mid- to late-November, according to a fall foliage predication map at smokymountains.com.

During prolonged periods of drought, trees can generate yellow and brown pigments to protect their photosynthetic organs from damage caused by excess sunlight.

“This is similar to the process that causes the color change of leaves in the fall, but instead of being triggered by cold weather, it is caused by abnormally dry conditions,” Flocke said. “This is one of the reasons why people may have noticed dull yellows and browns across Texas for months now, even though we have still not experienced widespread cold weather.”

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TREES STILL STRUGGLING WITH EFFECTS OF DROUGHT, CONTINUED

Even when drought conditions relent, trees could continue to struggle with the effects of the prolonged dry period for years. Those effects include secondary pests and diseases that target trees already under stress from other factors, including a lack of water.

“There are many long-term effects that trees will have to deal with years after the drought has ended,” said Blevins. “They don’t just suffer during the drought. Add to this the stress from the 2021 freeze, and it complicates the situation even further.”

Wood-boring insects, root rots and canker-causing pathogens are particularly common in many tree species after drought. Trees also may be stressed by human activities, such as construction or other actions that disturb or compact soil or damage roots.

There are dozens of species of wood-boring insects but they are all similar in destruction, and infestations can increase dramatically in stressed trees. Wood borers, particularly bark beetles, flatheaded borers and longhorn beetle larvae, tunnel under the bark, and if enough of them colonize a tree, it will eventually die from damage to the phloem layer – the part of the tree that transports food.

In pine trees, infestations of Ips bark beetles can prove especially devastating after drought. The beetles will feed on the tissue of the trees, causing the pine needles to fade to a light rust color before turning dark brown and eventually falling off and defoliating the trees. By the time a pine tree starts turning colors, it could be too late to save.

In live oaks and other hardwoods, ambrosia beetles are common after drought or stress periods, with compacted toothpick-shaped sawdust coming out of the bark as a typical sign of infestation. Symptoms of an infestation include the sudden discoloration of leaves in the crown or branches. Infestations in juvenile trees usually prove fatal. Mature trees may survive the infestation but typically makes the tree susceptible to other health issues.

The best option is to ward off an attack by keeping trees healthy so that they won’t be attractive to beetles and their natural defenses can fend off attacks.

With many shade trees going into premature dormancy and otherwise stressed because of the dry summer, it can be difficult to assess their health. Just because leaves begin to fall from a tree, does not mean the tree is dead. For small trees, you can use a fingernail to scrape some of the smaller twigs. If there is green underneath, the tree is not dead.

Providing water is the most helpful way to reduce the stress to trees during drought conditions. Established trees may not need supplemental water, but should be monitored for signs of stress, including leaves that are dropping or wilting, small or malformed leaves, and yellowing or browning of the tips of leaves.

Younger trees should be watered up to three times per week in the absence of precipitation. Early in the morning and late in the evening are the best times to water to avoid the water being lost to evaporation during the heat of the day.

The toll from the drought on the state’s trees won’t be known for some time, as it could take months for stressed trees to show symptoms.

In the meantime, landowners should keep a close watch on their trees and take measures to maintain tree health throughout the year.

Learn more about tree pests and diseases through TreeMD here: <https://texasforestinfo.tamu.edu/TreeMD/>.

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MARKET REPORT- MAY/JUNE 2022

Product	Statewide Ave. Price		Previous Ave. Price		Price/ Ton Difference	
	Weight	Volume	Weight	Volume		
Pine- Sawlogs	\$30.67/Ton	\$245.40/MBF	\$29.98/Ton	\$239.83/MBF	2%	↑
Pine-Pulpwood	\$6.83/Ton	\$18.44/Cord	\$6.97/Ton	\$18.81/Cord	-2%	↓
Pine-Chip-n-saw	\$13.25/Ton	\$35.77/Cord	\$13.32/Ton	\$35.96/Cord	-1%	↓
Mixed Hardwood- Sawlogs	\$33.13/Ton	\$298.16/MBF	\$34.01/Ton	\$306.07/MBF	-3%	↓
Hardwood- Pulpwood	\$8.87/Ton	\$24.83/Cord	\$7.56/Ton	\$21.17/Cord	17%	↑

Texas Timber Price Trends is a bimonthly publication reporting average prices paid for standing timber in Texas. This report is intended only as a guide to general price levels. It should not be used to judge the fair market value of a specific timber sale, which may vary considerably due to many factors. It is recommended that you use the services of a professional consulting forester in managing any timber sale. Important factors affecting timber prices include the type, quality and volume of timber for sale, accessibility, distance to mills/markets, weather conditions, economy/market conditions, who is handling the sale or is buying the timber, and contract requirements by the landowner. The complete Texas Timber Price Trends can be viewed at <http://tfsweb.tamu.edu/timberpricetrends>.

WILDFIRE PREVENTION AND BURN BANS

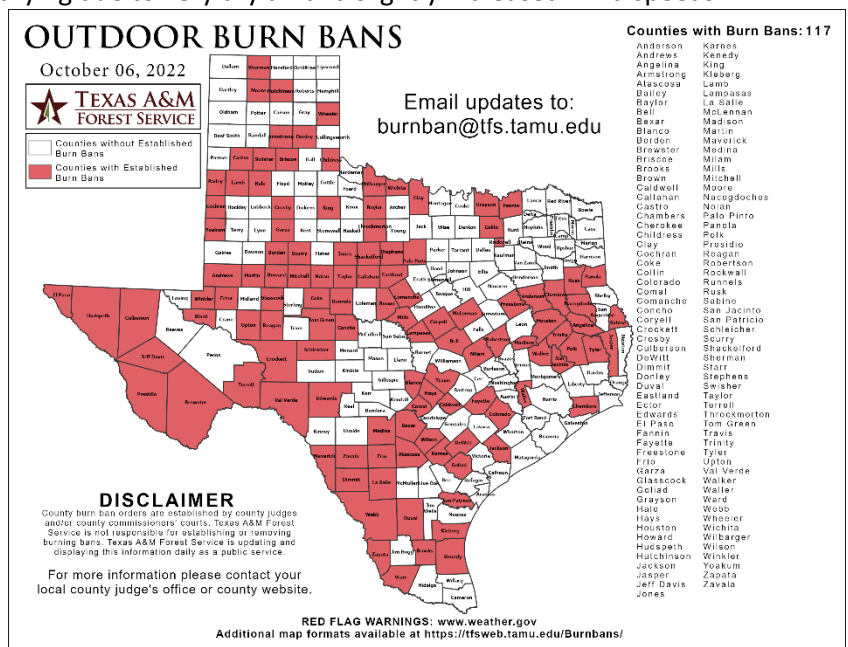
Texas A&M Forest Service

On October 4, 2022, Texas A&M Forest Service has raised the Wildland Fire Preparedness Level to Level 2 due to an increase in wildfire activity, particularly in the east half of the state. Recent periods of accelerated drying resulted in widespread critically dry surface fuels. Continued drying due to very dry air and slightly increased wind speeds will support wildfire activity.

Preparedness Levels, 1-5, in state are planning assumptions and actions dictated by fuel and weather conditions, fire activity and fire suppression resource availability. Level 5 is the highest level of wildland fire activity and indicates heavy resource commitment to fires locally.

Texas A&M Forest Service continues to monitor the situation and stands ready to respond to any requests for assistance.

As of October 6, 2022, there are 118 counties with burn bans in place. Please be cautious with any activity that causes sparks or heat. Before burning debris, find out if your county is under a burn ban by checking tfsweb.tamu.edu/TexasBurnBans.

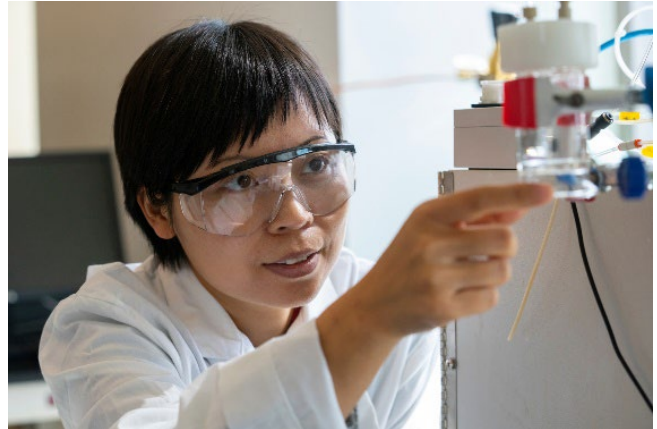


TEXAS A&M AGRILIFE DESIGNS SYSTEM TO CREATE BIOPLASTICS

Helen White, Texas A&M AgriLife Extension

A team of Texas A&M AgriLife Research scientists has developed a system that uses carbon dioxide, CO₂, to produce biodegradable plastics, or bioplastics, that could replace the nondegradable plastics used today. The research addresses two challenges: the accumulation of nondegradable plastics and the remediation of greenhouse gas emissions.

Published Sept. 28 in Chem, the research was a collaboration of Susie Dai, Ph.D., associate professor in the Texas A&M Department of Plant Pathology and Microbiology, and Joshua Yuan, Ph.D., formerly with the Texas A&M Department of Plant Pathology and Microbiology as chair for synthetic biology and renewable products and now Lopata professor and chair in the Washington University in St. Louis Department of Energy, Environmental and Chemical Engineering.



Technology to produce bioplastics has been developed by Susie Dai, Ph.D., and a team of Texas A&M AgriLife researchers. (Texas A&M AgriLife photo by Michael Miller)

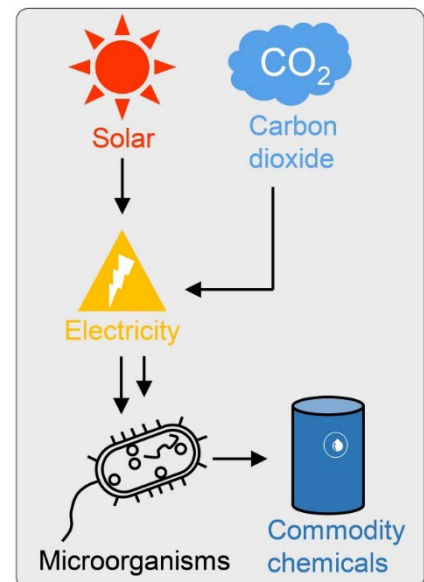
The research was made possible by the John '90 and Sally '92 Hood Fund for Sustainability and Renewable Products, Texas A&M AgriLife and Texas A&M University.

Creating Bioplastics

Dai said today's petroleum-based plastics do not degrade easily and create a massive issue in the ecosystems and, ultimately, oceans.

To address these issues, the Texas A&M College of Agriculture and Life Sciences researchers and their teams worked for almost two years to develop an integrated system that uses CO₂ as a feedstock for bacteria to grow in a nutrient solution and produce bioplastics. Peng Zhang, Ph.D., postdoctoral research associate, and Kainan Chen, doctoral student, both in the Texas A&M Department of Plant Pathology and Microbiology, contributed to the work. The Texas A&M University System has filed a patent application for the integrated system.

"Carbon dioxide has been used in concert with bacteria to produce many chemicals, including bioplastics, but this design produces a highly efficient, smooth flow through our carbon dioxide-to-bioplastics pipeline," Dai said. "In theory, it is kind of like a train with units connected to each other," Dai said. "The first unit uses electricity to convert the carbon dioxide to ethanol and other two-carbon molecules – a process called electrocatalysis. In the second unit, the bacteria consume the ethanol and carbon molecules to become a machine to produce bioplastics, which are different from petroleum-based plastic polymers that are harder to degrade."



Electrocatalysis converts CO₂ to ethanol and other carbon-chain molecules. Microorganisms, or bacteria, consume carbon molecules to produce bioplastics. (Texas A&M AgriLife graphic by Kainan Chen)

Websites of Interest

TexasForestInfo.tamu.edu

Check out these FREE landowner tools that can assist you in making land management decisions on your property.

www.TexasForestry.org

Lobbying on various forestry and environmental issues that directly affect you, publishing and sponsoring educational events are just a few of many things that Texas Forestry Association does. Find out more about what Texas Forestry Association does for you and why you should be involved!

tfsweb.tamu.edu

Find a plethora of forest management resources and many people that can assist you in your forest management goals.

tpwd.texas.gov

Find out more information on wildlife management, hunting and fishing regulations and much more!

nracs.usda.gov

Find out more information on natural resource conservation and federal programs in your area.

MyLandManagementConnector.com

Find and connect with service providers in your area to get assistance with land management practices on your property

Capturing and re-using CO₂ waste

Using CO₂ in the process could also help reduce greenhouse gas emissions. Many manufacturing processes emit CO₂ as a waste product.

“If we can capture the waste carbon dioxide, we reduce greenhouse gas emission and can use it as a feedstock to produce something,” Dai said.

“This new platform has great potential to address sustainability challenges and transform the future design of carbon dioxide reduction.”

The major strength of the new platform is a much faster reaction rate than photosynthesis and higher energy efficiency.

“We are expanding the capacity of this platform to broad product areas such as fuels, commodity chemicals and diverse materials,” Dai said. “The study demonstrated the blueprint for ‘decarbonized biomanufacturing’ that could transform our manufacturing sector.”

Expanding future impacts

Dai said currently, bioplastics are more expensive than petroleum-based plastics. But if the technology is successful enough to produce bioplastics at an economic scale, industries could replace traditional plastic products with ones that have fewer negative environmental impacts. In addition, mitigating CO₂ emissions from energy sectors such as gas and electric facilities would also be a benefit.

“This innovation opens the door for new products if the bacterium is engineered to consume carbon dioxide-derived molecules and produce target products,” Dai said. “One of the advantages of this design is the condition the bacteria grow in is mild and adaptable to industry-scale conditions.”



UPCOMING EVENTS

October 26-28, 2022- Texas Forestry Association 108th Annual Conference- Location: 177 Joe Routt Blvd, College Station, TX 77840 – For more information or to register for the event, visit <https://member.texasforestry.org/page/annualmeeting2022registration>

Purple Paint

The Texas Penal Code 30.05 provides that a person commits criminal trespass if he or she (1) enters or remains on the property of another; (2) without the effective consent; and (3) the person had notice the entry was forbidden or received notice to depart but failed to do so.

The “notice” required may can be given in various ways including (a) oral or written communication; (b) fencing obviously designed to exclude intruders or contain livestock; (c) a sign or signs posted on the property indicating that entry is forbidden; or (d) **the placement of purple paint marks on trees or posts on the property.**

In order to constitute the required “notice” that trespassing is prohibited, purple paint marks on post or trees must meet the following criteria: (1) vertical lines of not less than 8 inches in length and not less than 1 inch in width; (2) placed so that the bottom of the mark is not less than 3 feet from the ground or more than 5 feet from the ground; and (3) placed at locations readily visible to any person approaching the property and no more than 100 feet apart on forest land or 1,000 feet apart on land other than forest land.

Thus, in summary, purple paint is used to indicate that the public is not permitted to trespass on private property and is one option for giving the notice required so that trespassers may be held criminally liable.

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NETFLA WEB SITE

www.netxforest.org

Next Membership Meeting

Saturday October 29, 2022 at Luigi's in Mount Pleasant at 10 am

Two topics will be discussed at this meeting.

Carbon Credits continues to receive a lot of attention. Many of you heard Dr. Eric Taylor's presentation at the Texas A&M Forest Service SFI meeting in Mount Pleasant in July, and how he applied through the NCX website. Forester/Realtor Marty Walker will discuss the NCX program, how to apply for carbon credits, and strategies for determining what your asking price should be for selling your credits.

We have received several requests from landowners for information on how to handle trespassing issues, hunting leases and updates on feral hog control. Jonathon Taylor, Camp County Game Warden will discuss these issues. Both of the Speakers welcome questions to address your specific needs.

Luigi's is located at 2213 West Ferguson (TX Hwy 49). It is on the south side of the street near the intersection of West Ferguson and the US Hwy 271 bypass around Mount Pleasant.

Lunch will be on your own if you elect to stay.

Mark your calendars for **10 am on Saturday, October 29.**

Future Programs:

The Board is considering program topics for future meetings which include: pine seedling genetics and timber harvesting. Please contact an Officer or your County Director if you have a topic that you would like addressed at a future meeting.

NETFLA Contact and Membership Dues Information

Thank you for your NETFLA membership. We hope that Newsletters, Programs and Meetings have provided you with useful information that has helped you manage your timber property. We encourage you to continue your membership. Membership dues are \$15.00 per calendar year.

If you have not yet renewed your membership for 2022, you can renew at the next meeting or mail your check to: **NETFLA, P.O. Box 343, Daingerfield, TX 75638-0343.**

Our records indicate that your 2022 Membership status is:

Renewed _____ Not Yet Renewed _____

Contact: Judy Weiss (903) 645-3782, or e-mail gjweiss@windstream.net

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