THE SHADE TREE

A BI-MONTHLY BULLETIN DEVOTED TO NEW JERSEY'S SHADE TREES

Volume 95 — November - December 2022 - Issue 11 & 12

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BULLETIN OF THE NEW JERSEY SHADE TREE FEDERATION

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HELPING NEWLY PLANTED TREES SURVIVE A DROUGHT, WITH ALMOST NO WATERING

By James Nichnadowicz,

Union County 4-H Agent and Union County Shade Tree Advisory Board

The summer of 2022 was a thirsty time for trees; we had only about half our average amount of rainfall for the months of July and August. Additionally, both months were above average for temperature; in fact, August was the hottest recorded since 1895. Lastly, there were a number of low humidity days with strong winds... all of these factors... heat, wind and low-humidity contribute to trees needing more water. Unfortunately, because of the low rainfall, tree roots could not find it in the soil. Besides supplementary watering what can be done to help newly planted trees survive this type of weather with minimal watering?

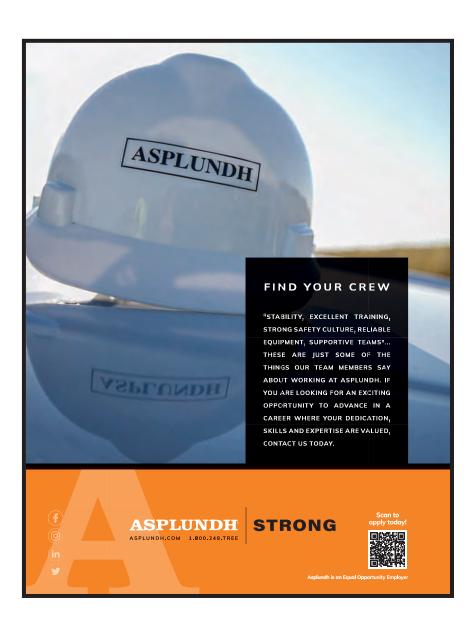
Plant during favorable weather. Newly planted trees do best when they are greeted with weather that doesn't overwhelm them with thirst. Trees demand for water increases when they are actively growing, there is sunny and warm weather; low humidity and wind. June, July and August typically have most of these factors in New Jersey while September and October would rank in 2nd place. Thus, the 1st choice for best weather to plant would be November and December. The next favorable time would be when the ground thaws enough to dig... this maybe all winter or you may have to wait until March and April. Important note. whenever you plant, do not expose the tree's roots to temperatures below 32 degrees. Tree trunks and branches can take freezing weather but the roots cannot. While waiting to plant keep the roots well insulated and moist.

Examine Your Tree's Health Closely before Planting How do you know that a balled and burlapped tree (tree that is field grown and then dug up and wrapped with burlap) is healthy when it was delivered to you in a dormant (after it has dropped its leaves) condition? The Davey tree company advises, "Live branches will bend before they break, whereas dead branches will snap easily. Live branches will have green in the inner layers, while dead branches will be dry and brown or gray. Scrap a very small section of outer bark off (no bigger than a dime size) you should see green inner bark." For a video showing this procedure go to https://www.starkbros.com/growing-guide/article/how-to-do-a-scratch-test.

Also, check to see if the root ball is moist. To do so unbend a coat hanger and see if you can gently but easily push it into the root ball. If you cannot, the soil is dry in the ball and the roots may be dead.

What about bare-root trees (trees delivered to you in a dormant state with no soil around the roots). They should arrive to you packed in moist material (moss or newspaper that is wet or hydro-gel). The roots should not smell moldy. Do the branch bending and scrapping suggested for burlapped trees. The roots should be supple and plump.

What about container grown trees that have gone dormant? Check the tops



HELPING NEWLY PLANTED TREES SURVIVE A DROUGHT, WITH ALMOST NO WATERING

Continued from page 83

of the trees as you would a balled and bur lapped tree. To view the roots ... gently remove the root ball from the container. They should be plump and whitish or a shade of brown. However, they should not be black, which can indicate rot. Also, they should be pliable.

Site Preparation. Anything that can be done to encourage the tree's root system to grow larger should be. Also, improving the water holding capacity of the soil is needed. To do both I like to remove the competition of sod and weed roots by removing both in a 6-foot diameter circle. Once you have bare soil then loosen the ground down to one foot with a fork, shovel or backhoe. Try to break the soil up into pea sized pieces if possible. Amendments can also be added to the soil at this time. For heavier soils I prefer pine bark fines. They help to provide aeration in the soil and do not decompose quickly; providing years of benefits. Soils that are sandy should use materials that help to retain moisture... such as peat moss and compost. Lastly, once the tree is planted a 3 to 4-inch layer of coarse mulch (woodchips or bark) will help to keep moisture in the soil. Coarser mulch has less of a tendency to repel water than more finely ground materials. Keep mulch back from trunk about 3 inches.

Plant the smallest sized tree possible. Roots supply the leaves with the water they need to stay turgid and carry out photosynthesis. Besides being healthy there should be a sufficient number or mass of roots. In general, larger sized trees in containers, those that have been balled and burlapped often do not have root balls large enough to sustain the tree without supplemental watering. If you are not going to water trees after planting, buy as small a sized tree as you can. They will have more roots per shoots than larger caliper trees.

Smaller caliper trees, however, will have to be protected from damage by deer and other herbivores. They will also have to be protected from mechanical damage; soccer balls; bicycles; lawn mowers; and string timers. In Union County we make enclosures around the smaller trees with 4 sturdy stakes and 7-foot-high, heavy duty deer fence in a 6-foot circle. The fencing is 'zipped tied' to the stakes to prevent deer from lifting them up.

Burlapped plant bare root if possible or smaller caliper balled and burlapped trees. The soil in container grown trees holds very little moisture. it is mainly sand and organic matter and contains no clay/mineral soil. Clay soil can hold a lot of moisture. Also, the root ball size with container grown trees is very small compared to the top of the tree. Nurseries compensate for the well-drained soil and imbalance of top to roots by frequent watering (they may water every day in hot weather). Thus, planting a container grown tree into an environment where watering is up to nature can be risky.

The second choice for trees to plant would be balled and burlapped trees. B & B trees, as they are known, come shipped with a ball of mineral soil that contains some of the tree's roots. Many of the trees roots are lost when the tree is dug up at the nursery. However, what remains is kept in a nice ball of mineral soil that will stay moister then soil in a container grown tree.

1st Choice for not to be watered is a bare-root tree. A bare-root tree will have more roots that a similar caliper balled and burlapped tree (is this really true?). Also, it will not be surrounded by the porous potting soil of a container grown tree. Lastly, it will be surrounded by mineral soil, (if sandy) add organic matter to hold more moisture, or plant trees adapted to dry conditions (Hackberry).

Watering... if you can, water when you first plant. Pull the mulch back. make a saucer with the soil, (saucer should be size of root ball) and fill the saucer and wait until all the water drains. Do this 3 times - keeping an eye that the water does not leak through the sides of the saucer. If possible, continue to check the soil for moisture throughout the summer. Go 3 inches or so away from the trunk and feel the soil 3 inches down in the ground. If it feels moist, no water is needed. If dry, water using the method described above.

URBAN WOOD UTILIZATION TOUR – REIMAGING URBAN FORESTRY AND REDUCING WOOD WASTE

By Rae Tamblyn

The FORESTRY Source Dec 2022, Vol. 27. No. 12

Wood is an abundant renewable resource, but an estimated 30 million tons of urban wood is wasted across the country, ending up in landfills, costing cities and businesses time, money and carbon. Beginning with a goal to explore new uses for urban wood, urban wood utilization grew into a holistic means to reduce wood waste and drive a circular, bio-based urban economy addressing complex ecological, economic, and social challenges across the country.

At its core, urban wood utilization involves diverting wood from waste streams and landfills, creating value, driving new markets, generating employment opportunities, and storing carbon in previously wasted wood. The wood cones from two main streams: wood salvage from deconstruction and fresh cut lumber and wood from urban tree operations (including tree care and utilities activities, storm or pest damaged trees, and clearing from construction sites).

Tour attendees at the SAF 2022 Convention explored the world or urban wood products starting at the pilot site that kick-started it all: Camp Small, an urban sawmill, mulch supplier, woodshop, composter, and workforce development program. Since starting in 2016, Camp Small has demonstrated that reutilized urban wood materials have market value and can be used to save money, support the city budget, benefit local wood economies, create jobs, help reduce cities' carbon footprints, and position cities to achieve sustainability and climate resiliency goals.

DOGGETT . . . Liquid asset for trees and tree care companies.

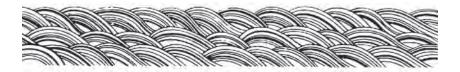
The fastest growing segment of the tree care industry is liquid tree fertilization and Doggett is leading the way. The spectacular growth in this field has come from the fact that the fertilizing method that helps trees the most also helps tree care companies the most.

Liquid fertilizing is right for trees because the fertilizer is injected into the soil. This fractures and aerates the soil so that water, oxygen and fertilizers are made available to the feeder roots. Doggett's forty years of experience have resulted in XL Injecto Feed—a solid in a liquid—suspended particles of concentrated nutrition which you mix with water. Its slow release formula provides nourishment for up to two years and is available in five formulations for varying fertilizing situations.

Liquid tree fertilizing is a liquid asset for tree care companies because it lets you do a thorough and professional job in very little time with hardly any investment in equipment. It requires about one fourth the labor of the dry granular application.

It's no surprise that the leading tree care professionals in the country come to Doggett for tree fertilizer. From Central Park in New York, where XL Injecto Feed is the fertilizer of choice for dependable results, to the highly respected Shade Tree Laboratories at the University of Massachusetts, XL Injecto Feed is demonstrating its value and proving that it really is a liquid asset for trees and tree care companies.

Doggett Corporation, Lebanon, NJ 08833 Tel: 908-236-6335



URBAN WOOD UTILIZATION TOUR – REIMAGING URBAN FORESTRY AND REDUCING WOOD WASTE Continued from page 86

After exploring Camp Small and hearing from their champions of urban wood along with the city government and the USDA Forest Service, tour attendees visited multiple businesses that utilize urban wood in their operations. /The second stop showcased finished products installed at a community recreation center, followed by a stop at Brick + Board, a Baltimore-based retailer of reclaimed wood and brick. Brick + Board salvages materials from deconstructed old buildings and is committed to creating skilled, living-wage jobs for residents with employment barriers. (Room + Board, a sustainable furniture company with a successful Urban Wood Project line of furniture – reusing over 16,000 board feet from deconstructed row homes – was also mentioned.) Each new product and business built around urban wood reduces waste, keeps carbon stored longer, and creates a story that connects forests to homes in a brand new way.

What started as a pilot project has become a diversified, replicable, and scalable regional economy, fostering a circular and inter-dependent set of markets and products. It drives community and employment revitalization and reduces wood waste, wall while reimaging our cities – and our urban wood streams – as opportunities for innovation and climate solutions. The urban wood movement is here to stay, and we're excited to see it grow.

Rae Tamblyn was a moderator at the Women in Forestry panel and is SAF's associate director of community engagement.

WILLIAM J PORTER AWARD OF APPRECIATION HONOREE ANNOUNCED

This year the NJ Shade Tree Federation's William J. Porter Award of Appreciation was presented to Liz Stewart. The presentation was made during the Federations 97th Annual Conference in Cherry Hill. Liz served on the Board of Directors for the Shade Tree Federation for many years and was a member of the Federation for many years before joining the Board. Throughout that time, she has been a constant advocate for member benefits, and a driving force for improvement and advancement.

Liz was President of the NJ Shade Tree Federation in 2020 and 2021, and in this challenging time she got us through our first ever online conference and created the framework for the online CEU options we continue to offer. Lis was also a primary contributor to the STF publication "Forms for NJ Trees," brought us the "meet the board" videos, advocated for online access to digital copies of the Shade Tree Federation publications (which are now available from our website) and helped to develop the new "Tree Talk" online Zoom forum.

WILLIAM J PORTER AWARD OF APPRECIATION HONOREE ANNOUNCED

Continued from page 88

Liz has done all this in addition to her constant support on the Education Committee, helping to develop the new William J. Porter Community Tree Project Award, and the work she does on her own local Shade Tree Commission in River Edge. Her enthusiasm for the work of Shade Tree Commissions is boundless and contagious. Liz is always there to help, and we owe her our thanks.

Please join us in congratulating her, and in celebrating with Liz, the 2022 recipient of the NJ Shade Tree Federation's William J. Porter Award of Appreciation!

WILLIAM J. PORTER ARBORICULTURE SCHOLARSHIP RECIPIENT ANNOUNCED

The William J. Porter Arboriculture Scholarship was established to memorialize its namesake. The recipient must be a Rutgers student and be enrolled as a full time student enrolled in a program of studies representing a demonstrated interest in Arboriculture or Urban Forestry. The student must be in at least sophomore standing with a minimum GPA of at least 2.5. The ideal candidates would include those majoring in Ecology & Natural Resources, Plant Biology & Pathology, Environmental Planning and Design, or Landscape Architecture, but others may apply.

The 2022 William J. Porter Arboriculture Scholarship recipient is Atomu Saul.

Atomu is a student of the Rutgers Urban Forestry Program in the School of Environmental and Biological Sciences. He is a sophomore working toward a dual major in Plant Biology and Ecology, Evolution and Natural Resources. Atomu is the Treasurer of the Rutgers University Forestry Club and is the Teaching Assistant for this year's Dendrology class. As a side note, he is currently working on a project to assist in identifying trees in winter.

We wish Atomu all the best in his future endeavors and look forward to seeing where his career takes him!

SEASON'S GREETINGS!

The Executive Board and Directors of the New Jersey Shade Tree Federation wish to thank everyone for their support over the past year. Best Wishes are being extended for a Happy Holiday Season. May the New Year be healthy, happy and prosperous to each and every one of you!

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The Executive Board wishes to extend their appreciation to the following sponsors who have contributed to the financial success of our conference.

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CLIMATE CHANGE IN THE FORESTS OF NORTHERN GERMANY: TEAM FINDS WIDESPREAD DROUGHT STRESS IN EUROPEAN BEECH

by University of Göttingen *Phys.org December 5*, 2022

Typical beech forest in northern Germany: the scientists took samples of wood from dominant trees at 30 locations. Credit: Banzragch Bat-Enerel

More and more trees are suffering the consequences of decades of manmade climate change. The growth of the European beech has so far suffered decline mainly in southern Europe. European beech is Germany's most important native forest tree species, and it is most commonly found in central Europe.

A research team from the University of Göttingen has now been able to show that the European beech is suffering from increasing drought stress during summer in northern Germany as well. This climate stress is particularly pronounced at warmer sites, wherever there is a higher density of these trees, and on very sandy soils. The results have been published in the journal Global Change Biology.

In their study, the researchers specifically selected a wide range of sites ranging from wet to very dry, because even in northern Germany there are very dry beech forests. The scientists took numerous wood samples at all these sites to measure the tree rings in the tree trunks.

"This allows us to look back over many decades and reconstruct tree growth in the past," explains Dr. Robert Weigel, a postdoctoral researcher in Plant Ecology and Ecosystem Research at the University of Göttingen. These data were combined with those from climate stations to derive the relationship between climate and growth of the trees.

Samples of wood are taken from European beech. They are glued to wooden strips and prepared with razor blade or sandpaper so that the annual rings are clearly visible on the smooth surfaces and can be measured and dated using a microscope.

The investigations revealed that drought and heat in June, the main month of growth for beech trees, are—across all the locations studied—the most important climate factors influencing how much the trunk will grow,





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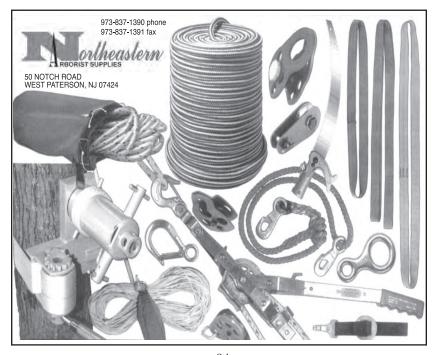
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CLIMATE CHANGE IN THE FORESTS OF NORTHERN GERMANY: TEAM FINDS WIDESPREAD DROUGHT STRESS IN EUROPEAN BEECH Continued from page 93

with the negative effects being stronger in drier locations.

"Looking back into the past in this way enables us to gain valuable information about the potential future of beech," states Professor Christoph Leuschner, Head of Plant Ecology and Ecosystems Research, Göttingen University.

"The clear message is dry locations show the strongest long-term decline in growth, because a lack of water is becoming much more common there," says Weigel. "These results are a warning that the European beech will also be increasingly affected by drought, not just in southern Europe, but also in many regions here in Germany."

For the future, therefore, it will be necessary to examine more closely where beech forests will be able to grow in northern Germany and which drought-tolerant tree species will be better able to cope with climate change, taking into account the amount of rainfall, current climate trends and soil conditions.



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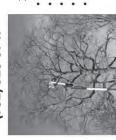
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