TSU NURSERY NEWS TO USE

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COLD WEATHER INJURY can occur on a wide range of plants, however, it seems to be very problematic in evergreens like laurel, boxwood, holly, fir, arborvitae and juniper. Excessive drying or dessication, the biggest concern with evergreen plants, is when water evaporates from leaves or needles on windy, warm days during the winter or early spring but is not replaced because the roots cannot take up enough water from cold soil. As the temperatures rise, the foliage no longer has the ability to function and turns brown. Other symptoms include chlorotic flecking, needle drop and tip dieback and possibly death. The most familiar symptom on broadleaf evergreens, like boxwood, is marginal browning and longitudinal rolling along the midvein. Entire branches or shrubs can be affected. Deciduous trees and shrubs are also damaged by winter injury. Woody plants that are damaged by winter injury will often show tip and branch dieback, foliar browning, sunscald and bark splitting.

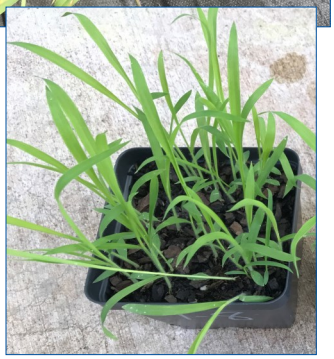

PHOTO CREDIT: Amy Dismukes

GROWERS, don't forget about FREE plastic recycling program at the TSU Nursery Research Center.

For growers who use greenhouse plastic, using the plastic roller from the TSU Nursery Research Center is free of charge and saves time and money. Plastic from a typical house can be rolled by one person in less than four minutes. Multiple houses are loaded on to a single roll, which is then dropped off at the Nursery Research Center for recycling. This saves labor, disposal fees and needless tons of used plastic entering landfills. It has been said to be "much easier and faster than older methods". The roller does not have to be on your site when you remove the poly. Lay it on the ground beside the house until you can borrow the roller, or for when labor is available after the spring rush. For more information or to reserve a roller, please contact Josh Reed at 931-743-2363.

WEED OF THE MONTH: Large crabgrass, *Digitaria sanguinalis*, is a warm season annual grass growing spring through early fall. Plants grow in full to part sun and are adapted to moist and poor soils. Large crabgrass establishes readily in disturbed areas but is a common weed of lawns, landscapes, and nursery crops (container and field-grown). Plants have a low spreading growth habit and flower in later summer/early fall. Stems can grow to 3 feet long, vary in color from green to purple, and are capable of rooting at the nodes forming dense colonies. A single plant can bear more than 150,000 seeds which are easily dispersed by mowers and can stick to shoes/clothing. Seeds germinate in early spring as soil temperature rises above 53° F so pre-emergent herbicides should be applied in late winter for optimum control. Good sanitation practices are key to preventing large crabgrass infestations and include weeding liners prior to transplant, removing small weeds prior to flowering, thoroughly washing re-used containers, and properly storing pine bark and other potting substrates to prevent infestation. Large crabgrass establishment is easy to prevent with the use of pre-emergent herbicides, many effective products are available and contain dimethenamid-P, dithiopyr, indaziflam, oryzalin, oxadiazon, pendimethalin, prodiamine, S-metolachlor and trifluralin.


PHOTO CREDIT: Dr. Anthony Witcher



Please contact Dr. Anthony Witcher at awitcher@tnstate.edu for more information on nursery weed control practices.

DON'T FORGET YOUR FUNGICIDES! It is easy to understand why a wet springs translates into heavy soil pathogen populations. Problems may pop up where they've been absent before, and resurrect in areas with a history. Wet soils are a requirement of many fungi and bacteria diseases to development, however, they are essential for the water molds, Phytophthora and Pythium. As temperatures rise, these pathogens will "wake up" and begin the hunt for stressed roots. Blocks or crops that have a history of root disease may need to be treated preventatively. Roots of incoming transplants should be checked to prevent introduction where these root pathogens have never been present or a problem. As always, sanitize. Information about selection and usage of disinfectants for nursery production can be found at https://www.tnstate.edu/extension/documents/Disinfectant%20factsheet.pdf. A list of fungicides for phytophthora management for boxwoods are available at https://www.tnstate.edu/extension/documents/Boxwood%20Phytophthora%20Factsheet.pdf. Several control multiple pathogens (Phytophthora and Pythium), including but not limited to Segway, Terrazole, Empress, Orkestra, Subdue MAXX and Banol. Often once symptoms are visible above ground, the pathogen has done its job below and it can often be too late to control these diseases, therefore, cultural measures are imperative. Cultural practices include sanitation of any propagation, growing area and blocks, good drainage, proper irrigation, monitoring water quality, crop rotation, improving air circulation and selective pruning for canopy health. For more information, contact Dr. Fulya Baysal-Gurel or refer to the TSU Extension publication website at https://www.tnstate.edu/extension/publication_index.aspx.

SPRUCE SPIDER MITE, *Oligonychus ununguis*, is a cool weather mite that can be managed annually with a dormant oil, however, miticides may also be required. We don't see the damage until hot, dryer weather, but the mite is active in the spring and fall weather, so March is an excellent time to scout and determine if treatment is required. Mites suck plant juices from cells, causing stippling damage (photo), which over time can coalesce, causing a bronzing effect, killing entire branches, rendering trees unsellable. To confirm mite presence, hold a sheet of white paper under a branch and tap the branch to dislodge the mites. If mites are present, you will see reddish to dark brown "moving dots". Host plants include: blue, Norway and white spruce, arborvitae, cedar, cryptomeria, dawn redwood, Douglas-fir, hemlock, juniper and pine. If treatments are determined necessary, Dr. Addesso recommends Floramite, at a rate of 4-8 fluid ounces per 100 gallons. Floramite has a 28 day residual and can be used two times per growing season. Additional treatments will be necessary in the later fall if mites are still currently active. For more questions, please contact Amy Dismukes at adismuk1@tnstate.edu.


PHOTO CREDIT: Amy Dismukes

PREVENTATIVE CONTROL OF AMBROSIA BEETLES IN MID-MARCH!
With the rainy season starting, soils will be saturated as the temperatures and humidity begin to increase, nursery trees may be in a vulnerable state to ambrosia beetle attack, especially those that may have experienced any freeze or cold weather injury. If not monitoring already, you should check trees, beginning early March, and treat accordingly. Host trees should be protected March - May with spray containing a pyrethroid, such as permethrin or bifenthrin, that is labeled for granulate ambrosia beetle. Reapply every two to three weeks while beetles are active. A surfactant or sticker will provide longer protection. Emitters can be adapted to reduce spray Volume, therefore, reduce killing beneficial insects in the tree canopies. Systemic products are ineffective because the beetles do not feed on vascular tissue only. For more information, please refer to REDBOOK at https://ag.tennessee.edu/EPP/Redbook/PB1589.pdf or contact Dr. Karla Addesso at kaddesso@Tnstate.edu.


PHOTO CREDIT: Amy Dismukes

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