As our summer heats up, trees will begin to stress due to drought. When other issues are present, trees may be overcome.

Please be diligent in removing dead tissue from your nursery and destroying.

If redbud, check for vascular streaking . If present, sterile prune below damage. Frac 3 or Frac 11 fungicide applications are recommended after pruning.

PHOTO CREDIT: Amy Dismukes

TSU NURSERY NEWS TO USE

ISSUE 35
JUNE 14, 2022

WEED OF THE MONTH: Cut-leaf evening primrose, *Oenothera laciniata*, is a cool-season annual or short-lived perennial broadleaf weed native to the eastern United States but has become invasive in South America, Europe and Australia.

Although a native plant, cut-leaf evening primrose is a problematic weed in pastures, agronomic fields, landscapes and nursery crops. It germinates in early spring through early fall, forming a rosette then developing multiple stems. Plants have an upright to spreading growth habit with numerous branches and can grow over 2 feet tall, able to out-compete small nursery liners. Stems are reddish in color and covered in tiny hairs. Leaves are alternate, green in color with toothed to deeply lobed margins growing to 4 inches long and 1-inch-wide (upper leaves smaller than lower leaves). Cut-leaf evening primrose begins blooming in early May with showy yellow to yellowish-red flowers that open at night and close during the day (hence the common name). Flowers mature into a capsule fruit, with a single plant capable of producing 10,000 seeds. Plants form a large taproot that is difficult to remove from the soil. Cut-leaf evening primrose is difficult to control with glyphosate, but diquat and glufosinate are more effective especially on small plants. Pre-emergent herbicide applications can prevent establishment and effective products contain dichlobenil, indaziflam, oryzalin, oxyfluorfen, pendimethalin and simazine. Please contact Dr. Anthony Witcher (awitcher@tnstate.edu or 931-815-5147) for more information on nursery weed control practices.

PHOTO CREDIT: Dr. Anthony Witcher

The TSU Nursery Research Center and the local USDA-Natural Resources Conservation Service office have been collaborating with the Cumberland River Compact on a project evaluating cover crop use in nursery field production. We received grant funding for the project and have purchased equipment for planting (all-purpose seeder) and terminating (roller crimper) cover crops and this equipment is available for nursery growers to rent (at a nominal cost) through the Warren County Soil Conservation District.

The all-purpose seeder has disc blades that loosen the soil then the seed is dropped and pressed into the soil with an attached cultipacker. The all-purpose seeder is only 4 ft wide, works well in most nursery field plantings, and can plant individual cover crops species and mixes. Two roller crimpers (4 and 5 ft wide) are available and are used to terminate cover crops at maturity, creating a thick mat of residue to help preserve soil moisture and prevent weed establishment. Cover crops are used to improve soil quality by increasing water infiltration, moisture content, and organic matter while preventing erosion and reducing pest infestations (insects, pathogens, and weeds). If you are interested in using the all-purpose seeder or roller crimper, please contact the Warren County Soil Conservation District at 931-668-4383 Ext 3. For more information on selecting and planting cover crops in nursery fields, contact Dr. Anthony Witcher (awitcher@tnstate.edu or 931-815-5147).

Dealing with Herbicide Drift. Nursery crop production areas are commonly located adjacent to pastures and row crop (corn, soybeans, etc.) fields. As a result, spray drift or volatilization of post-emergence herbicides (2,4-D, dicamba, paraquat, etc.) from these areas can cause damage to nursery crops. A number of factors can lead to herbicide drift damage including unfavorable weather conditions and off-label applications. Although trees/ shrubs may not be killed due to herbicide drift, these crops may be deemed unsalable or harvest may be delayed an additional year or two.

There are several steps nursery producers can take to prevent herbicide drift damage or assist with documenting potential herbicide drift damage. Communicate with neighboring land owners so they understand the sensitivity of your crops. Sign-up with a herbicide drift online registry tool (driftwatch.org) to identify your field locations to herbicide applicators. Routinely inspect nursery fields to quickly detect any potential damage. Install a weather station near your fields to document weather conditions (temperature, humidity, wind speed & direction, and rainfall) for comparison to the conditions recorded by the herbicide applicator. For under $200, you can purchase a weather station that is Wi-Fi connectable for uploading and saving all weather data to popular online weather servers (Example - Weather Undergound). Popular weather station brands include Ambient Weather (WS-2902C), AcuRite (Iris 5-in-1), and Logia (5-in-1).

If herbicide drift damage is detected, contact the Tennessee Department of Agriculture (TDA) to report the incident so that plant samples can be collected for chemical analysis. The quicker herbicide drift damage is detected and reported, the more likely TDA will be able to assist with verifying herbicide presence via chemical analysis. See the TSU extension article “Interpreting Herbicide Damage in the Nursery” for more details (https://www.tnstate.edu/extension/documents/Interpreting%20Herbicide%20Damage%20in%20the%20Nursery.pdf).

Contact Dr. Anthony Witcher (awitcher@tnstate.edu) for more information on herbicide drift damage.

IR-4 friends

The recently formed Friends of IR-4 coalition is working to advocate for the need to fully fund the IR-4 Project.

We need the specialty crop community and many other stakeholders who benefit from the project to get involved. Our coalition is growing, and we want you to come join us. We need Congress to increase financial support for the IR-4 Project in Fiscal Year 2023 from $11.9 million to the Congressionally authorized amount of $25 million. For questions, please contact David Beaudreau at dbeaudreau@dclrs.com.

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