WASHINGTON COUNTY
UTEXTENSION
INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

The Trusty Trowel
September 2023

Thursday, September 14th 6:00pm
Cover Crops for the Home Vegetable Garden

Are you looking for a way to improve the clay soils in your garden? Cover crops, or green manures, are great inexpensive ways to improve our soils in the home garden. Join Adam Watson and learn how to implement these in your garden. In-person location: Jonesborough Farm Bureau Basement Meeting room, 1103 Boones Creek Rd, Jonesborough.

In-person Registration: https://tiny.utk.edu/inpersoncover or call 753-1680
Online Zoom Registration: https://tiny.utk.edu/gardencover

How Did the High Temperatures of August Affect Our Vegetable Gardens?

You probably couldn't help but notice the high temperatures that we saw towards the end of August. Provided they had sufficient water, most of our vegetables survived. However, with daytime highs consistently exceeding 85ºF it would not be unexpected for tomatoes to have pollination failures.

Flower dropping with tomatoes is commonly seen when daytime temperatures exceed 85ºF or night temperatures exceed 70ºF. The high temperatures affect the viability and dispersal ability of pollen which prevents successful pollination. August 20th-28th saw our daytime highs exceed 85ºF, so it is likely there were few tomato fruits set during this period for some varieties. This pollination failure means that we may see a lack of tomatoes to harvest in six weeks to eight weeks.

However, not all tomato varieties are equal in their responses to temperature stress and flower dropping. Cherry tomatoes are generally considered less affected by this phenomenon with 'Sweet 100' being specifically mentioned as a good option. There are some tomato varieties specifically marketed as being more heat tolerant than others; some of these come from the commercial production world and may not have the best flavor profiles. Surprising to me, the variety 'Celebrity' which I often recommend as a tomato with good disease resistance, was found to be among the most heat tolerant out of 43 varieties trialed by Texas A& M.

Fall Planting of Perennials & Trees

Fall is a great time to plant perennial plants in our area. A fall planting takes advantage of more favorable conditions for plant establishment and generally requires less attention from us to see the best results.
While spring planting is popular, and even permissible for most plants, it does come with the additional challenges of watering the transplanted perennials through summer as their root systems are not yet well established. Fall planting allows for the root system to grow much larger before the high temperatures of summer show up. It doesn't mean a fall planted perennial won't benefit from summer irrigation, but we should see a more resilient plant that can handle the heat better.

The Trusty Trowel-September 2023

PLANTING DEPTH, OR HOW TO KILL YOUR PLANT SOONER RATHER THAN LATER.

I'm frequently looking at trees and perennials throughout Washington County that are suffering from some sort of problem. It's alarming how often I find these trees and shrubs are planted too deeply; whether they were planted by a home gardener or a landscape professional. With woody plants, their decline is frequently a combination of multiple factors and it is often an initial stressor which makes them more susceptible to other potential problems. Planting too deep is often that first step towards future problems.

Planting too deep is a problem for several reasons. First, roots need oxygen and the deeper we go into soil the less oxygen is available. Placing soil on top of roots is restricting their ability to get oxygen which in a best-case scenario means slowed growth and in the worst-case, root death. Planting too deeply also is burying the trunk too deeply. The bark on a woody stem is not designed to be buried under the soil, and doing so makes it much more susceptible to attack from diseases or insects; both of which can bring about the demise of a plant.

THE ROOT OF THE PROBLEM?

Sometimes the problem happens because gardeners are trained to plant things at the same depth at which they were growing in the container or at the nursery. The problem is that the plants we get are often too deeply buried under media or soil. How does that happen?

The organic matter rich media-it's not soil-in containers over time will subside or reduce in volume; it's simply the result of settling and even the breakdown of the material and is not in itself a bad thing. But as consumers, we don't want to buy a plant whose container is 25% empty so the container gets topped off with media. That topping up is effectively burying the roots below the surface of the media, which is not injurious to the plant based on the porosity and aeration of the media. However, when planting this container plant "at the same depth" we are covering it over with soil which has very different characteristics than that media and we are very likely to see issues.

For balled and burlapped specimens, it's not uncommon for tillage to occur between rows of plants in the nursery as a method of weed control. This tillage results in dirt thrown up around the trunks of trees and shrubs. Generally speaking, most nursery's select areas in which the soil is very well draining and even sandy, if possible. The porosity and air infiltration into these soils is superior to that of a heavy clay soil so it is not to the plant's detriment while in the nursery, but when we place the plant our clay soils we have problems.

FIND THE ROOT FLARE FOR PROPER PLANTING DEPTH!

To avoid planting too deeply first find the root flare of your plant. Do this by removing the media or soil on top of the root ball. Flares are more dramatic on trees and larger woody specimens but still can be found on many perennials. For species such as conifers, which do not have a prominent flare, remove material until you see a root.

The picture to the right is the corrective excavation by a Johnson City homeowner of a nuttall oak improperly planted by a landscaper. Note the several inches of soil removed to find the root flare and the single adventitious root which began growing in the nursery. This root as it was not part of the root flare or the structural roots and being exposed after excavation was removed.

The Trusty Trowel-September 2023

Best Practices for Planting Balled and Burlapped Trees

Improperly planted redbud; photo by Adam Watson

1. Remove all strapping, twine or ropes from around the trunk of the tree. The redbud to the right was installed by a landscape professional with the straps, which attached the wire basket, and the burlap left intact. In time, these straps would have girdled the trunk and ultimately, led to the death of this tree.

2. Remove the burlap from the top of the root ball and find the root flare of the tree to determined proper planting depth. This may be several inches below the soil surface. There is no way to determine where the root flare is without removing the burlap on top of the root ball. Failure to remove burlap is a key indicator that the installer is not following best practices.

3. Dig a hole only as deep as required to place the root flare at the soil surface and with a minimum diameter of two to three times the root ball. Take caution to not dig deeper and exceed the proper depth; refilling a hole to get the proper height will result in settling of the tree to a deeper improper depth over time.

4. Place the tree in the hole and at minimum remove all above ground natural burlap*. The burlap will wick moisture out of the soil if it is visible above the soil. Also, remove as much of the wire cage as is practical. Current research is not clearly supportive that all the wire cage must be removed, but once in the hole, the job of the cage is done and removing the top third of the basket should minimize potential problems. *If synthetic burlap was used (synthetic burlap melts when held to a flame as opposed to burning) remove all of the material if possible.

5. Fill the hole surrounding the root ball and pack the soil firmly around the ball to stabilize the tree. Watering periodically, such as when 1/3 filled, 2/3 filled, and completely filled can aid in making sure no air pockets remain in the backfill. **No soil amendments (compost, manure, bagged "soils", etc.) should be added to the planting hole while refilling**. Only soil that was removed from the hole should go back in. When the soil in the planting hole is significantly different from surrounding soils it can create water flow issues where the planting hole may become too dry or too wet compared to the surrounding soil.

6. Lastly, mulch to a depth of three to four inches with a coarse mulch a such as wood chips and water as weather requires.

These tips were summarized from the following sources check them out for more info: *TreesAreGood Consumer Brochure New Tree Planting*; *Trees Need a Proper Start –Plant Them Right!*; *Wire Baskets: Leave them or remove them?*; *Tree Installation: Process and Practices*

The Trusty Trowel-September 2023

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If you're thinking of adding some perennials to the garden check out Perennials for Tennessee Landscapes for some great options for your garden.

FREE PLANTS! Dividing Perennials in the Home Landscape

Over time, our herbaceous perennials in the landscape can overgrow the available space, or are performing less than their best such as centers thinning out. We can control overgrown plants and rejuvenate poorly performing plants by dividing them; which not only result in a better plant for our garden, but will also give us the opportunity to share plants or expand our landscapes without spending money.

We divide perennials in either the spring or fall and if there is a preference it's based on when they flower. Spring and summer bloomers are divided in the fall while fall bloomers are divided in the spring; for some plants either timing is correct. There is a great resource to help you determine the ideal time to divide your specific perennials and helpful pointers from the University of Minnesota available as a pdf, or online spreadsheet covering 125 plants.

If you are unsure of the exact process of dividing perennials take a look at either of these videos: this short one from NC State ot this longer one from JC Raulston Arboretum. The JC Raulston Arboretum video was specifically shot during the spring, but the physical process is the same for similar types of plants whether spring or fall.

For questions about your home and garden please feel free to contact me, Adam Watson, Agriculture Extension Agent watson@utk.edu **or by cell 423-430-6711.** Emailing pictures is a great way to get questions answered.

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