

In the 7.5 years that I've served as the Agriculture and Natural Resources Extension Agent in Camden, 80-90% of the issues I've seen have had one root cause – too much water and/or poor drainage. The funny thing is, this is the issue that clients argue with me about the most. It's a running joke in my house – if I had a dime for every client question where the answer was too much water, I could retire already. It seems that since we have a sandy topsoil and a hot climate, folks believe they can't have enough water in their landscapes. In reality, too much water can rob plants of nutrients and oxygen. It can also create the needed conditions for pathogens to create disease.

In general, Camden County has a high water table and a clay type subsoil – both of which lead to poor subsoil drainage for plant roots. This often leads to root rot which can present with a number of above ground symptoms. Above ground symptoms may include dieback, thinning, leaf burn, wilting, and yellowing. When root rot is progressed, plants will pull up easily and roots will appear dark and stunted. Several pathogens can cause root rot, but all of them are triggered by too much and prolonged moisture on the roots. Disease is like a three-legged stool. It requires a pathogen (which is usually already present naturally in the environment), a susceptible host, and the appropriate environmental conditions in order to take hold. Leaf spots or any type of fungal growth are also signs of overwatering and are best addressed by prevention, not treatment.

Overwatering may show up in lawns as general unthriftiness, bare spots, algae growth, nostoc (a type of gelatinous cyanobacteria), crawfish towers, and excessive dollarweed growth. Often in lawns there is no obvious pattern to the unhealthy areas when overwatering is to blame, and there are often no lesions or spores on the leaf blades. Too much water can cause secondary infections (any fungal issue is ultimately caused by too much moisture), but the cultural issue is what needs to be addressed. In the past year, for example, every lawn pathology sample that we've sent off came back as "abiotic disorder – too much moisture." Even if there were minor signs of disease present, the cultural issue was the main concern.

So how much is too much? This varies by landscape, but a general rule of thumb is that most established plants and lawns need 1" of water per week including rainfall. In Camden we often get too much water from rainfall alone. In fact, I've found that I don't need to water my established plants at all unless we go through a prolonged period of drought which is rare. A little drought stress is actually good for plants. It can encourage deeper root growth which in turn creates a plant that can better withstand stressors. It is best to water only when you are starting to see signs of drought stress. These include footprints staying in your lawn after you walk on it, leaf blades beginning to roll, slight wilting (keep in mind that wilting can also be a sign of too much moisture or just the midday heat). When in doubt, stick your finger in the soil and check out the moisture level! When you do water, it is better to water less often and deeper. This encourages deeper root growth and stronger plants. Irrigation should never be on a timer or set schedule, it should only be turned on as needed.

A few notes on special circumstances. New plantings and seeds will have different water requirements than established plantings. Plants in containers will also have different needs depending on their location, exposure to rainfall, and the type of container (terra cotta dries quickly than plastic). It's also important to consider the impervious surfaces near your plants. Impervious surfaces, whether a roof or a driveway or walkway, move a huge amount of water to landscapes that then have to infiltrate them. This will add to the amount of water an area is receiving. This is a common issue in foundation plantings that often receive runoff from roofs, driveways, and walkways. Moisture tolerant native plants are the best choice for not only surviving but thriving in our challenging coastal ecosystem. Remember when it

comes to root rot, fungal diseases, and other issues caused by overwatering – an ounce of prevention is worth many pounds of cure.