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healthy soil has amazing water retention capacity

Every **1%** increase in organic matter results in as much as **25,000** gallons of available soil water per acre.

Unlocking the Secrets of **Urban Soil**

Urban soil undergoes major transformations during suburban development. Native vegetation and topsoil are often removed, leaving behind disturbed soils with beautiful landscaping but altered horizons.

To create thriving gardens in these urban landscapes, it's essential to grasp the physical and chemical properties of the soil. Understanding soil moisture, temperature, and nutrient conversion is key to meeting the nutritional needs of urban plants, as their growth is intricately linked to soil conditions.



As Florida faces a growing risk of water scarcity due to ongoing expansion, maintaining soil health becomes not just a choice but a vital necessity. Healthy soils can withstand climatic challenges and even mitigate them, emphasizing the importance of holistic soil management practices in an ecological context.

Biological Soil Management (BSM) emerges as a solution to combat water scarcity and promote sustainable urban landscapes by enhancing root strength, water retention, and overall landscape health. By investing in BSM practices, we can reduce water usage, foster resilient ecosystems, and cultivate deeper root systems for long-term benefits.

Understanding the intricate dance between soil and water allows us to tailor strategies to specific needs. Often, the solution doesn't lie in a singular approach but in a synergy of consumable technologies and modern irrigation techniques. Embracing Best Management Practices for soil restoration and enhancement is crucial for fostering fertile soils that excel in capturing water and nutrients while resisting plant diseases. This holistic approach stands as our best bet in managing landscape health effectively. Let's continue the conversation and think outside the box for sustainable soil management. A conservation mindset is one of the best defenses against drought and its associated risks. There is no harm in strengthening your resilience and taking small actions can have cascading benefits.

<p>Current Lawn Watering Restrictions</p> <p>Once per Week Lawn Watering</p> <p>Citrus Hernando Hillsborough Pasco Pinellas Sarasota</p>	<p>Twice per Week Lawn Watering</p> <p>DeSoto Hardee Manatee Polk</p>
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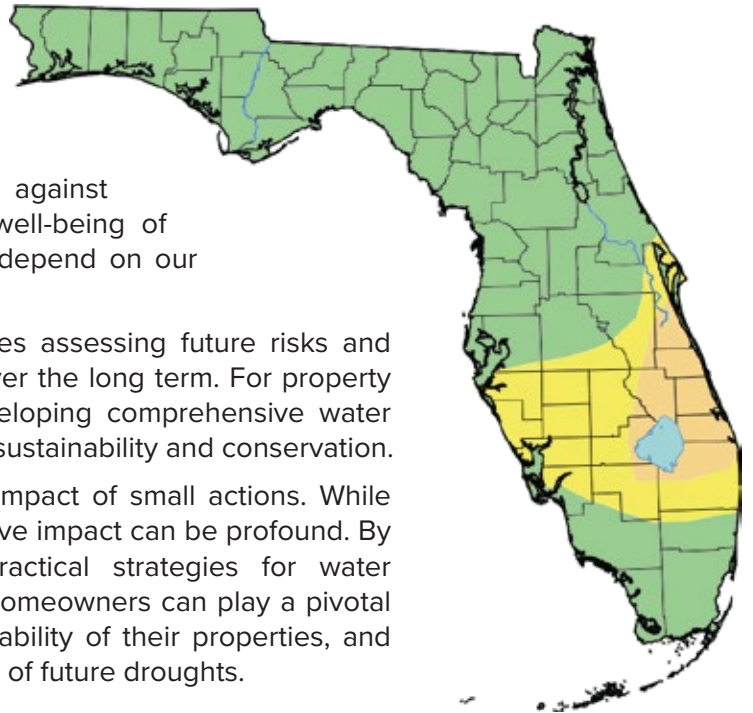
The **Key** to Drought Resilience

Small Actions, Significant Benefits

The reality we face is stark. Scientists forecast more intense droughts in the future, with a NASA study predicting a significant rise in megadroughts. Embracing a conservation mindset is crucial for building defenses against drought and its risks. The resilience of properties, the well-being of communities, and the sustainability of local environments depend on our collective ability to adapt to these changing conditions.

Resilience planning is inherently forward-looking. It requires assessing future risks and implementing strategies designed to mitigate those risks over the long term. For property managers and community boards, this might include developing comprehensive water management plans and advocating for policies that support sustainability and conservation.

The path to drought resilience is built on the cumulative impact of small actions. While individual efforts may seem modest in isolation, their collective impact can be profound. By adopting a conservation mindset and implementing practical strategies for water conservation, property managers, community boards, and homeowners can play a pivotal role in safeguarding water resources, ensuring the sustainability of their properties, and contributing to the resilience of their communities in the face of future droughts.



Current US Drought Monitor | April 30, 2024
Estimate Population Affected by Drought 1,563,208

The Break Down of **Mulch**

Proper mulching is crucial for any Florida-Friendly landscape. Different mulches have variable effects on soil physical properties and plant growth. Landscape mulch materials can be **ORGANIC** (plant-based), **INORGANIC** (e.g., rocks), or **SYNTHETIC** (e.g., rubber). Depending on the type used, benefits can be maximized, decreased, or even prevented.

Organic Mulches

These natural materials increase organic matter content, insulate the soil from extreme temperatures, and release nutrients gradually for improved fertility and structure. Organic mulches suppress weed growth, attract beneficial organisms like earthworms and insects, and enhance water retention. Though they may decompose faster, they promote a thriving ecosystem.

To optimize the benefits of organic mulches, it's crucial to select the appropriate type for your specific garden needs. Choices such as straw, wood chips, bark mulch, and compost each offer distinctive advantages. For instance, straw mulch is ideal for vegetable gardens as it provides excellent moisture retention and decomposes quickly, enriching the soil. Wood chips and bark mulch, on the other hand, are better suited for ornamental beds where their slower decomposition rate and aesthetic appeal enhance the landscape. Compost, while serving as an excellent soil amendment, can also function as mulch, offering a nutrient-rich layer that improves soil structure and fertility. Implementing the right mulch not only contributes to a vibrant, healthy garden but also reflects a commitment to sustainable gardening practices.



Inorganic and Synthetic Mulches

For optimal plant growth, organic mulches are recommended over inorganic and synthetic options. Inorganic mulches may work for pathways or under house eaves, but they are not ideal for planting beds. Inorganic mulches are less effective at controlling weeds, need more pesticides, and do not support beneficial organisms. Rubber mulches can release chemicals into the soil and have been found to be highly flammable in tests. Both inorganic and synthetic mulches can raise soil temperatures and retain heat well into the evening. Choose organic mulches for a healthier and more sustainable gardening approach.



Liquid Assets that Put Water to Work

Why be concerned about lawn moisture levels?

Some grasses tolerate drought more than others. Failure to provide water when your lawn needs it could result in more issues with weed grasses.

Lawn moisture management products briefly explained...

(1) There was a time when all we could do for our lawn in drought was add water. **(2)** A more modern approach to moisture management involves granular or liquid applications of wetting agents. **(3)** Wetting agents hold water in the root zone longer, reducing water wastage. **(4)** Wetting agents are also effective in dealing with fairy rings. **(5)** In periods of drought, soil can become hydrophobic meaning it won't absorb water. **(6)** Drought conditions can benefit certain weed types.

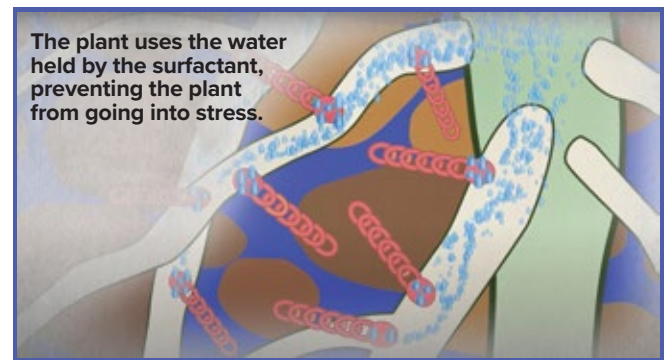
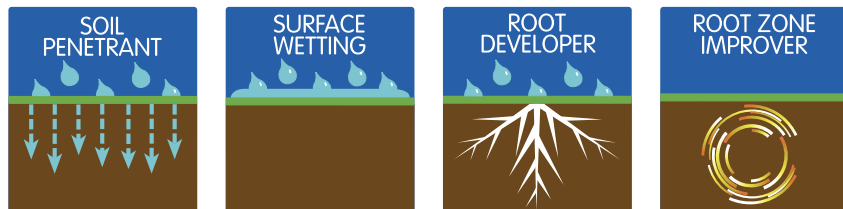
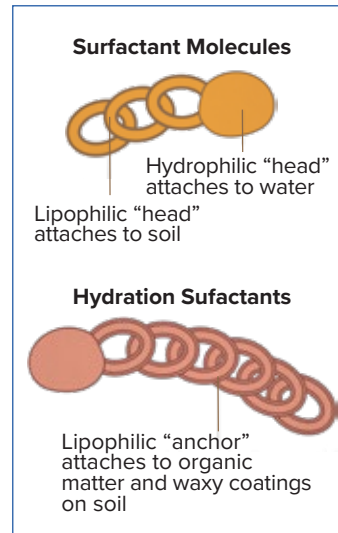
What are Surfactants? Surfactants, short for SURFace ACTing AgeNTs, are substances that alter the surface tension of liquids, facilitating their interaction with solids or other liquids. Included in foliar applications, they promote greater coverage of plant foliage to promote maximum uptake of active ingredients, whether they be pesticides or plant nutrients. In irrigation systems, surfactants improve the wetting and penetration of water in the soil by reducing the surface tension of water, allowing it to spread more efficiently throughout the soil and reach plant roots more effectively. This helps with water management, soil hydration, and nutrient distribution in landscaping applications. The use of these various products and additives provides a legitimate means of sound environmental stewardship.

Is a Soil Surfactant a Wetting Agent? Wetting agents are a category of surfactants that lower the tension of a liquid so hydrophobic soils can absorb water rather than repel it. When there is inconsistent watering, a soil surfactant wetting agent will reduce the surface tension of the water. This reduced surface tension increases both the vertical and lateral movement of water in the soil, improving the water use efficiency.

How Surfactants Can Help

When it rains, we expect it to help, but sometimes the soil becomes so dry it becomes water-repellent, and moisture cannot move down through the soil profile. A diverse spectrum of products is available to cater to the full spectrum of possible needs. As you fight the summer with higher temperatures and moisture stress to the turf, consider soil surfactants to address your needs.

Wetting agents are a great fix but will not resolve the issue long-term. Wetting agents work by breaking down waxy coatings as well as breaking the surface tension in the water making it easier to penetrate the soil. The long-term way to improve your soil is by amending the soil with compost.



Factors Influencing Product Performance

1. Understanding how wetting agents interact with water and soils under different agronomic and environmental conditions is critical to developing an effective wetting agent program. It's a bit of chemistry within the context of cultural practices.
2. It is best to treat hydrophobic soil conditions preventatively rather than curatively. Research has shown that applying wetting agents before the onset of hydrophobicity can result in fewer localized dry spots and an increased ability to rewet soils if they become hydrophobic in the future. Preventative wetting agent applications can also positively impact turf performance during stressful conditions by increasing water and nutrient availability and promoting deep rooting.
3. If thatch is greater than 1/2" or soil organic matter is greater than 3.5%, it's a good idea to core aerate to make sure the wetting agent does not bind to the organic material, preventing its infiltration into the rootzone.

Breathing Life into Your Lawn: **Aeration**

Aeration is creating the opportunity for better circulation in your lawn. It provides better drainage, better penetration of water, and better air infiltration in the soil—in other words, a better environment for your lawn’s root system. Aeration reduces compaction.

What is **Core Aeration**?

Core aeration involves removing small plugs or cores of soil from the lawn. This process alleviates soil compaction and allows nutrients, water, and air to reach the grassroots more effectively.

Effective Soil Compaction Relief: Core aeration physically removes soil plugs, providing immediate relief from soil compaction and allowing the roots to breathe and grow.

Stimulates Microbial Activity: The holes left by core aeration encourage microbial activity in the soil, promoting a healthier and more balanced soil ecosystem.

Long-Term Impact: While core aeration may take longer to show results than liquid aeration, its effects are more long-lasting.



Core Aeration is recommended for lawns that are already 75% healthy. It is best to Core Aerate during or right before your grass reaches its peak for natural growth. When aeration coincides with active growth, grasses recover quickly and fill areas where aerator equipment exposes soil. Never aerate dormant lawns.

What is **Liquid Aeration**?

Liquid aeration, also known as soil conditioning, is a relatively new approach to lawn care. It involves spraying a liquid solution onto the soil, which breaks up compacted soil and enhances root development. The key ingredient in these solutions is usually a surfactant or wetting agent that helps water penetrate the soil more effectively.

Quick Application: Liquid aeration is faster than core aeration. It can be applied with a regular garden hose attachment, making it a convenient choice for busy homeowners.

Uniform Coverage: The liquid solution ensures even coverage across the entire lawn, reaching areas that might be challenging with core aeration equipment.

Enhanced Nutrient Absorption: Liquid aeration often includes additional nutrients that can be readily absorbed by the grass, promoting healthier growth.



While liquid aeration will not harm a lawn that is severely damaged, it will not provide the same results as core aeration. If your lawn is filled with bare patches, puddles, and it struggles to grow year after year, core aeration is a better choice.

Expected **Results**

Keep in mind that lawn care is a long-term process requiring regular maintenance. While aeration can provide dramatic results, don't expect miracles from a single aeration. Over time, the benefits of improved fertilizer absorption, better rooting, and thatch breakdown will result in a greener, healthier lawn.

Properly aerated and conditioned lawns cost less to maintain. They need fewer mowings and less water (in many cases, 50% less) and decrease or eliminate the need for toxic pesticides and herbicides.

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