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St. Augustinegrass remains resilient under certain irrigation and fertilization restrictions, with or without soil humectants

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St. Augustinegrass irrigated at 100% evapotranspiration (ET) in March in South Florida and fertilized either following a summer blackout period or no blackout period. Photo courtesy of I. Alejandra Sierra.

Water conservation has become a priority in urban landscapes as growing populations, periodic droughts, and increasing regulations place greater pressure on limited freshwater supplies. Turfgrass managers need practical strategies that reduce water use while maintaining healthy, functional lawns and recreational spaces.

Furthermore, many regions may impose restrictions on fertilizer applications during parts of the year, potentially lowering turfgrass health. Understanding how irrigation and fertilization interact is essential for developing recommendations that improve resource efficiency without sacrificing turf quality.

Researchers evaluated the performance of a turfgrass under restricted irrigation and fertilization as well as the efficacy of soil humectants—products marketed to reduce water consumption because of their ability to pull water vapor and condense it back into a liquid—to help sustain turfgrass quality during restrictive periods. This two-year field study evaluated St. Augustinegrass (*Stenotaphrum secundatum*) under different irrigation frequencies (daily vs. twice per week) and volumes (40 vs. 100% weekly evapotranspiration [ET] replacement), fertilizer scheduling (with or without summer blackout), and soil humectants in South Florida. Reduced irrigation lowered turf performance in some situations, but daily irrigation at a lower water rate produced results similar to full ET replacement. Turfgrass quality also remained acceptable under the summer fertilizer blackout period. Soil humectants provided limited overall

benefits.

These findings show that St. Augustinegrass can remain resilient and produce quality turfgrass stands, even under water and fertilizer limitations. The results provide practical guidance for homeowners, landscape professionals, and policymakers seeking to conserve water while maintaining healthy urban landscapes in subtropical climates.

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Sierra Augustinus, I. A., Unruh, J. B., Kenworthy, K., Lindsey, A. J., & Schiavon, M. (2026). St. Augustinegrass can sustain performance under water and fertilizer restrictions in subtropical environments. *Agronomy Journal*, *118*, e70325. https://doi.org/10.1002/agj2.70325

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