

What is the goal of the Turfgrass Water Conservation Alliance (TWCA™) program?

The Turfgrass Water Conservation Alliance (TWCA) is a nonprofit organization dedicated to improving the environment through water conservation initiatives. TWCA recognizes and promotes plants that can thrive using limited amounts of water, helping to preserve our water resources. To accomplish this goal, the TWCA program is designed to recognize plants and other live goods products in the lawn and garden industry that provide a clear benefit in water conservation. Products that become TWCA qualified will have successfully met a stringent set of criteria. Therefore, consumers will be assured that any product with the TWCA qualified seal provides true water conservation benefits.

The use of water to maintain residential lawns, recreational areas and landscapes, and other non-agricultural uses is often criticized and scrutinized by various governing bodies and the general public. In order to meet the growing tide of concern over non-agriculture water use, it is imperative that researchers work to introduce new plants and other live goods products into the market that can survive under reduced or limited water while still maintaining overall plant health.



Look for the
TWCA™ Seal.



Learn How to
**Make a Difference
with TWCA™**

Improving the environment
and our standard of life
through water conservation.

www.tgwca.org

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Why should I worry about water conservation?

Fresh water supplies are severely limited around the world, especially in developed or developing countries, where urban sprawl, industrial growth, and agricultural modernization places greater demands on existing water supplies. It has been estimated that the demand for water has increased over three times in the past 50 years, and will continue to increase in the decades ahead. From 2000 to 2025, the pressures from population growth alone will account for a 22.43% decrease in the amount of water available per person. In addition, the weather has also taken a toll on our water resources. Our water supply and water quality continues to be jeopardized by persistent and intensifying drought and dry conditions.

The TWCA™ program has potential to alleviate much of the strain we are placing on our water resources, as well as lessen the negative impact to our environment. By promoting products with identifiable water-saving benefits, billions of gallons of water a year could be saved. This program will create awareness of our nation's growing water resource concern, and educate consumers in positive water conservation behaviors.



How is turfgrass evaluated?

The studies are conducted in approved structures that restrict natural rainfall on the plot area during the drought stress period (Figure 1). The entries are replicated four times in a randomized complete block design. Planting rates for each species reflect industry standards. Following establishment, each species is maintained appropriately and fertilized according to standard practices. Plots are maintained for a single growing season prior to initiating drought stress. Drought stress is replicated for two years in one location, or one year at multiple locations.



Figure 1

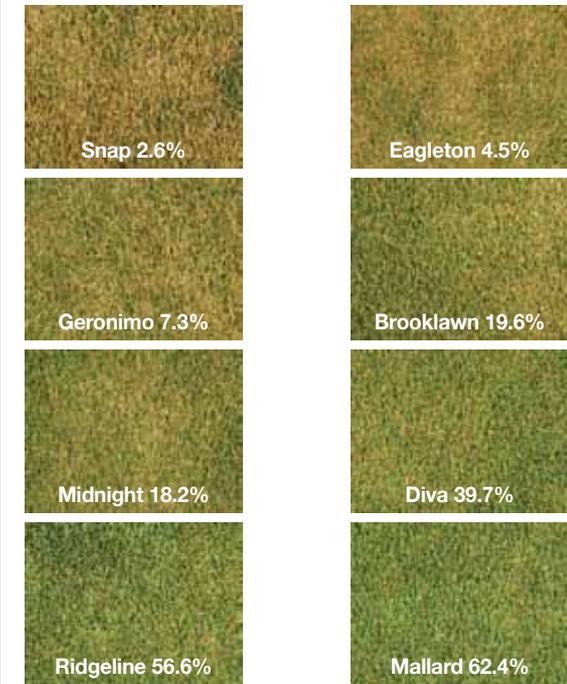


Figure 2

Prior to initiating drought stress, the experimental area is saturated to eliminate any dry areas and produce uniformly wet conditions across all plots. Immediately thereafter, irrigation is withheld to encourage drought stress symptoms. The response of entries to drought stress is evaluated two times weekly using digital image analysis techniques (Figure 2) to quantify the percent of green turf cover for each plot as drought becomes more severe (Figure 3). When all plots fall below a 25% green turf cover, the experimental area is saturated to initiate drought recovery. Thereafter, the experimental area is irrigated weekly and recovery of entries from drought evaluated weekly using digital image analysis until plots reach 100% green cover.

35 Days

Figure 3



78 Days

