

THE BEST TURF TIPS OF 1993

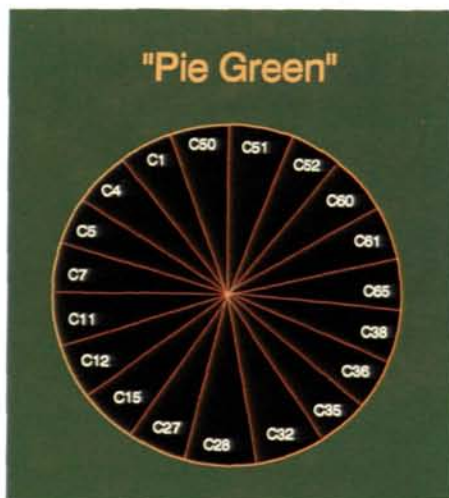
Survival of the Fittest

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MANY NEW bentgrass varieties recently have been released for use on putting greens. Unfortunately, limited information is available on the adaptability of these new bentgrasses for each climatic region of the United States. Golf course superintendents may find what they need to know about experimental and newly released bentgrasses by developing a turfgrass nursery at the golf course.

In the early days of turf care, most golf courses used South German bentgrasses for putting greens. As time progressed, alternative choices became available and decisions had to be made about which variety was preferred for that particular location. Before the release of Penncross bentgrass in 1955,



superintendents relied on one or more of the numerous commercially available, vegetatively propagated bentgrasses referred to as the "C" strains, which were selected and developed by the USGA Green Section and the United States Department of Agriculture. (The "C" designation stood for creeping bentgrass.)

In the 1940s and 1950s, golf course superintendents constructed turfgrass nurseries to rate varieties. It was well known that the performance of a variety varied depending on location. The USGA Green Section promoted the use of "pie greens," which were composed of 12 or more wedge-shaped sections, each planted with a single strain of bentgrass. For comparison, each

(Above) The "Pie Green" concept was promoted by the USGA Green Section during the 1940s and 1950s to evaluate the "C" strain vegetative varieties.

(Below) David Stone evaluates 27 new and experimental bentgrass varieties in two turfgrass test areas at The Honors Course.





pie green was also planted with several commercially available varieties.

David Stone, golf course superintendent at The Honors Club, in Ooltewah, Tennessee, has taken this old strategy and improved upon it. Charles Darwin, famed naturalist who wrote *On the Origin of Species*, stated his theory that only the best-adapted species will survive over time. David's idea was to construct his test nursery in a shaded area where bentgrass has the least chance of survival. His shaded plot was a tough environmental site with large trees and mounds on three sides. Some areas of the plot were completely shaded throughout the day.

In addition to the environmental stress, extraordinary maintenance practices, such as daily 1/8-inch mowing, rolling, and overwatering, further enhanced separation of the varieties. For comparison, an identical nursery was constructed in a more favorable, sunny site subjected to the same management.

In the fall of 1991, two nurseries were constructed to USGA putting green specifications. A total of 27 varieties were donated to the test from various turf breeders and seed companies. Each variety was replicated four times in each nursery, and the plot size was 3 by 5 feet, with 1 foot between plots. Plots were seeded at 1 pound per 1,000 sq. ft. A 3- by 5-foot box was placed around each plot during seeding to prevent contamination of adjacent plots. The seed was mixed with corn meal and distributed with a salt shaker for accuracy. Dr. Tom Samples, Extension Turfgrass Specialist, University of Tennessee, helped with the design and establishment of each nursery.



(Top) The two turf test areas were established with 3- by 5-foot test plots. During seeding, a box was placed around the plot to prevent contamination of the adjacent plots.

(Above) Some cultivars appeared to perform better under shaded conditions than others.

Visual ratings for turf density and texture were measured by David and his staff, university turfgrass extension specialists, turf breeders, and USGA agronomists from April through October. Particular attention was given to which varieties maintained turf density during the hot weather of July and August. Significant differences were most apparent between varieties at this critical time.

Many varieties died under the punishing management conditions. However, other varieties had better disease resistance and faster recovery from summer thinning. It was apparent from his test that new varieties are available today which are superior to traditional seeded varieties.

All you have to do to find the best for your course is to establish a turf nursery and implement the "survival of the fittest" test!