

## Research Summary


### Seeded and Vegetatively Propagated Cultivar Comparisons within both *Cynodon* and *Zoysia* Species

A number of seeded cultivars of bermudagrass (*Cynodon*) and zoysiagrass (*Zoysia*) species have been released recently for commercial marketing. Traditionally, cultivars of both species have been dominated by vegetatively propagated types. The objective of this investigation was to evaluate the adaptation and performance of vegetatively propagated versus seeded cultivars of both species, particularly as related to a Mediterranean type of climatic region. Eleven seeded and five vegetatively propagated cultivars of bermudagrass were compared, along with four seeded and five vegetatively propagated cultivars of zoysiagrass. All were maintained under cultural conditions representative of fairways and sports fields, including a 0.5 in. (13 mm) cutting height and a mowing frequency of 3 times per week.

Following four full growing seasons of assessments at the experimental site near Rome, Italy, the results revealed that the vegetatively propagated cultivars of both warm-season turfgrass species performed distinctly superior to the seeded cultivars in terms of turfgrass

quality, shoot density, and leaf blade width. The green-live canopy and root biomass assessments revealed no specific differentials between the two groups of cultivars of either species.

**Comments.** The selection and development of vegetatively propagated cultivars of both bermudagrasses and zoysiagrasses have been under way for a much longer time than for the seeded cultivars. Thus, the differential results between these two groups is not surprising, with the seeded cultivars of both species performing inferiorly. In time, through further detailed research efforts, the gap between these two groups can be narrowed. It should be noted that some of the seeded *Cynodon dactylon* cultivars may have performed better if mowed at a cutting height of 1 inch (25 mm) or higher, such as for golf course roughs and minimal use areas.

**Source.** Seeded and Vegetatively Propagated Cultivar Comparisons Within Both *Cynodon* and *Zoysia* Species, by P. Croce, A. De Luca, M. Mocioni, M. Volterani, and J.B. Beard. 1998. *Proceedings of the International Herbage Seed Conference*, 4:47-52. 

## China Discovers Benefits of Turfgrasses

James B Beard

During the communist purges that occurred throughout China some decades ago, one of the dictates to eliminate capitalist symbols from the country was to remove green lawns and even cut down ornamental trees. Subsequently, many of China's outdoor public open spaces have been maintained as well-swept dirt ground. The soil has become severely compacted and is groomed each morning by a large number of broom-wielding workers.

More than 15 years ago I was contacted by Chinese government officials concerning the development of a revegetation plan for the open spaces in the city of Beijing. The elimination of green vegetative covers that stabilize the soil had resulted in a major increase in atmospheric pollution within the city in the form of flying dust and even dust storms that reduced visibility. More importantly, increases in a number of serious human diseases were occurring at a much greater rate than in any other major non-Chinese city in the world. **Their interpretation was that the lack of green vegetative cover and its associated living biological eco-**

**system of antagonists to the disease-causing bacterial and viral organisms had resulted in a major increase in disease-causing organisms, which were readily disseminated by the windblown dust particles.** Unfortunately, I never was given the opportunity to review the actual documents on which these conclusions were drawn. Similar problems were occurring in many other large cities in China.

In an attempt to eliminate these serious urban pollution and human health problems, the Chinese governments in these major urban centers have embarked on a major program to revegetate the open spaces by planting turfgrasses in parks, on sports-recreation areas, along roadsides, and around major government facilities. Even the famous Tiananmen Square now has two distinct turfed lawn areas.

This series of historical events ranging from the extremes of bare dirt to the use of turfgrasses sends a strong message. **It emphasizes the important values of turfgrasses, not only from an aesthetic standpoint, but also from the beneficial effects in reducing pollution, protecting human health, and enhancing the quality of life in densely populated urban areas.** 