

2005 NATIONAL KENTUCKY BLUEGRASS TRIAL

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Introduction

The University of Minnesota has a long history of breeding Kentucky bluegrass. The first variety 'Park' was released in 1957 and is still in seed production in northern Minnesota. Park is a variety characterized as having excellent seedling vigor, but has dramatically lost market share due to poor disease resistance and turf quality. The northern Minnesota turfgrass seed production industry contributes millions of dollars to the rural economy but has lost market share due to the older turf varieties currently in seed production. Evaluating available varieties will allow us to identify traits that should be the focus of our germplasm improvement program.

The goal of the National Turfgrass Evaluation Program (NTEP) is to develop and coordinate uniform evaluation trials of turfgrass varieties and promising selections in the United States and Canada. Test results can be used by industry, extension specialists, turf managers, and plant breeders to determine a variety's adaptation across a wide range of environments and levels of turf maintenance.

Materials and Methods

In 2005, the National Kentucky bluegrass trial was established on the St. Paul campus with 110 released and experimental varieties. The evaluation of turfgrasses is generally conducted with visual ratings of numerous traits of interest to the end users. Visual traits evaluated include genetic color, stand density, leaf texture, disease resistance, and turf quality. Most visual ratings collected on NTEP trials are based on a scale of 1 to 9 where 1 is the poorest and 9 is the best. Turf quality is a combination of color, density, uniformity, leaf texture, pest and/or environmental stresses. Turf quality ratings are taken monthly at each NTEP site during the growing season and will vary based on the turfgrass species, the intensity of the management, and the time of the year. The data collected in 2007 included summer color, spring green-up, leaf texture, seedling vigor, drought tolerance, seedhead rating, and turf quality ratings from May through October. The trial was managed using a medium maintenance schedule including a 1.5 inch mowing height, 4 lbs N per 1000 square feet per year, and irrigation only as needed to prevent stand loss; no chemicals were applied to the trial in 2007.

Results and Discussion

Since the inception of this trial, the top 5 varieties and selections for overall turfgrass quality have been Bd 03-84, Shiraz, J-2404, A00-1400, and Blue Note. The data from the trial is available through the NTEP website at www.ntep.org and the University of Minnesota turfgrass science website at www.turf.umn.edu.

Our plant breeding program has developed a cooperative relationship with Rutgers University to access their valuable germplasm and provide seed producers with marketable, high quality turf varieties of Kentucky bluegrass that produce consistently high seed yields in northern Minnesota. There are three experimental Rutgers-UM varieties being evaluated in the 2005 National Kentucky Bluegrass Trial for potential variety release (MSP 3722, MSP 3723, and MSP 3724). In addition, a hybrid breeding program for Kentucky bluegrass has been initiated at the University of Minnesota.

Summary

There are a number of varieties and selections of Kentucky bluegrass that do well in Minnesota when grown under medium and high maintenance conditions. In order to provide even better options for seed producers and end users, we are accelerating the development and release of new varieties of Kentucky bluegrass for use in Minnesota and the northern United States. These new varieties should be available to seed producers and turf managers within the next two years.

