

NATIONAL BENTGRASS VARIETY TRIALS- SUNNYVALE MUNICIPAL GOLF COURSE

AUGUST 20, 1991

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A "Field Day" for the National Bentgrass Trials was held at the Sunnyvale Municipal Golf Course. This golf course is under the supervision Kenneth A. Sakai, CGCS, and the variety trials are under the direction of Dr. Ali Harivandi, University of California, Cooperative Extension, in cooperation with Golf Course Superintendents Association of Northern California. This location is one of seven locations in the U.S. for National Bentgrass Variety Trials. The collection of commercial and new experimental varieties for these trials is under the direction of U.S.D.A. Varieties for evaluation are submitted by private seed companies and public institutions to U.S.D.A. which then distributes seeds to cooperators for the establishment of evaluation trials.

Two major species of bentgrass are used for turf on greens and tees. These are creeping bentgrass (*Agrostis palustris* Huds.) and colonial bentgrass (*Agrostis tenuis* Sibth.). Both of these species have a low tolerance of drought, heat and wear, as well as high susceptibility to diseases, high rate of thatch build up, and high nitrogen requirements. Stolons of creeping bentgrass develop roots and shoots at their nodes, giving rise to the nickname "creeping". Colonial bentgrass by contrast has minimal creeping tendencies since stolons or runner growth from the crown of the plant is reduced or absent. Various bentgrass cultivars produce a broad range of colors, from greenish-yellow to dark green and dark blue. Golf greens planted with creeping bentgrass are mostly cut to a height of less than 0.25 inches and tees are cut at a height of 0.50 inches. Heavy thatch, scalping and overall quality decline are problems related

to cutting bentgrass to a height greater than 0.50 inches. Golf greens cut very closely may need 12-18 lbs. of nitrogen per 1000 sq. ft. per year; cut slightly higher, nitrogen requirements can be reduced to 6-10 lbs. per 1000 sq. ft. per year. Bentgrasses are extremely susceptible to most diseases such as Pythium blight, Fusarium blight, Fusarium patch, brownpatch, Helminthosporium spp. diseases and dollar spot. Varieties Penncross, Seaside and Emerald are common creeping bentgrass cultivars used on golf greens in California.

Materials and Methods

Preparation of the sites at the Sunnyvale Golf Course began in 1989. Two of the three sites were prepared by mixing 2 inches of organic matter by volume into 6 inches of top

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soil with a rototiller. One of these sites is managed as a golf tee/fairway and the other site is managed as a golf green. The third site was prepared by replacing the native soil with one foot of pure sand. The sand was low in calcium, magnesium and phosphorus. This was corrected by adding the appropriate amounts of gypsum and single superphosphate. This third site on sand is managed as a golf green. The varieties were planted (0.50 lbs/1000 sq.ft.) in March of 1990 in a randomized complete block design, with 10 ft.x 10 ft. plots and 3 replications. Fertilizer and irrigation water is added as needed. the tee site on the soil is mowed at 0.50 inches every other day. Greens are mowed at 3/16 of an inch every day except Monday. Twenty varieties were entered in each replication for each soil. Three of the varieties are colonial bentgrass, one dryland bentgrass (*Agrostis costellana*) one browntop bentgrass (*Agrostis cappillaris*) and the rest are creeping bentgrass. Not all of the same varieties were used on each of the soils. This National Bentgrass Trial will be completed in 1993 after three years of investigation.

Starting in January 1991 various data are taken on each plot. Overall quality on a scale of 1-9 (9 best) are taken on a monthly basis. Density on a scale of 1-9 (9 best) and percent (%) ground cover are taken on a monthly basis. Color ratings will be taken one time per year during October or November when the least amount of environmental stress is present and the full genetic potential for any given variety can be expressed. The first color rating will be taken when the plantings are more than one year old in order to eliminate false color expression of juvenile plants. Evaluation for diseases, insects, or environmental stresses will be recorded if they appear and are widespread. Progress reports, including the rating data, will be released annually. Final results and recommendations will be available in 1993.

In addition to significant financial support of this project by the City of Sunnyvale Municipal Golf Course, the following agencies have also contributed financially to the construction and maintenance of the project: O. M. Scott, Pacific Sod, R.V. Cloud, Shelton Transfer, Sierra Pacific Turf Supply, United Agri Products and WestStar Distributing.

Results and Discussion

The following results are preliminary. Overall quality ratings are the means of six observations. The final ratings will be the mean of thirty-six observations. Density and percent ground cover are means of three observations while the final ratings will be means of twelve observations. These preliminary data are not supported by statistical analysis.

SOIL SITE, TEE- Results from the soil site managed as a tee indicate the colonial bentgrass varieties (Tracenta, Bardot and Allure), the dryland variety (BR 1518) and the browntop variety (Egmont) are inferior to the creeping bentgrass varieties with overall quality ratings of 4.7, 4.8, 5.6, 4.1 and 6.1 respectively. The top performing creeping bentgrass varieties are Normarc 101, Cobra, TAMU 88-1 Putter and Penncross with overall quality ratings of 6.9, 6.9, 6.8, 6.8 and 6.7 respectively.

SOIL SITE, GREEN- Results from the soil site managed as a green indicate the colonial bentgrass varieties (Tracenta, Bardot and Allure), the dryland variety (BR 1518) and the browntop variety (Egmont) are inferior to the creeping bentgrass varieties with quality ratings of 4.2, 4.8, 4.8, 3.7 and 5.3 respectively. The best performing creeping bentgrass varieties are SR 1020, 88 CBL, Pennlinks and Carmen with overall quality ratings of 6.8, 6.7, 6.7, and 6.5 respectively.

SAND SITE, GREEN- Results from the sand site managed as a green indicate the colonial bentgrass varieties (Tracenta, Bardot and Allure), the dryland variety (BR 1518) and the browntop variety (Egmont) are inferior to the creeping bentgrass varieties with overall quality ratings of 4.0 4.4, 4.6, 3.5 and 5.5 respectively. The best performing creeping bentgrass varieties are SR 1020, 88 CBL, Pennlinks and Cobra with overall ratings of 6.6, 6.4, 6.4, and 6.4 respectively.

In summary creeping bentgrass (*Agrostis palustris* Huds.) has performed much better to date than other bentgrass species at this location. Since the available data is limited, the results reported here should be viewed only as preliminary. Varieties may perform differently in the years to come as they are subjected to a wider range of climatic, management and pathogenic stresses. Accordingly, no specific recommendations on choosing any of the tested varieties can be given at this time.

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**NAUMANN'S
NORCAL NEWS**

Bob Dalton, Supt. at Castlewood CC has accepted the Supt. position at Kings Country Club in Hanford... Scott Pajak has accepted the Supt. position at Chimney Rock GC in Napa. Scott was the assistant under Peter Galea at Crystal Springs GC... Capital projects must be in the wind. There are new maintenance shops at Lone Tree Golf Course in Antioch (Wayne Lindelof, Supt.) Stanford Golf Course in Palo Alto (Tom Thatcher, Supt.) and Alameda Muni Golf Course (Denny Plato, Supt.).

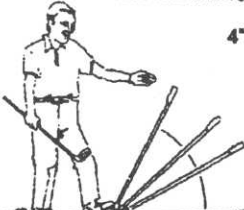
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