Creeping Bentgrass Fairway Cultivar Evaluation Trial

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This is the 2021 data for the creeping bentgrass *(Agrostis stolonifera L.)* growing under fairway height of cut conditions. This is a standard National Turfgrass Evaluation Program (NTEP) trial, and is being conducted at eight other locations besides Iowa State University. It contains 19 seeded cultivars, 11 of which are new experimental cultivars. Data collection will continue through 2025.

Materials and Methods

This trial was established at the Iowa State University Horticulture Research Station. The ground was cleared of all vegetative cover with a nonselective herbicide (glyphosate) before planting. The site was fraze mowed one month before planting to remove all vegetative tissue and thatch that was present.

The trial was planted on September 24, 2020. Plots are 5 ft. by 5 ft. in size, and all cultivars are replicated three times. Automatic overhead irrigation was applied to provide proper turfgrass establishment conditions. Starter fertilizer was applied at seeding at 1.0 lb. P per 1,000 ft.^{2}, followed by 0.5 lb. N per 1,000 ft.^{2} on October 27. The trial was mowed at 0.5 in. three times a week April through October.

Digital images were taken monthly starting in April to November. Digital images were captured with the use of a light box to ensure a consistent lighting and digital camera. Images were scanned using Turf Analyzer for percent green cover (1-100% cover), color (1=light green color and 9=dark green color), not presented here, and turfgrass quality (1=poor, 9 =excellent, and 6=acceptable quality), not presented here.

Results and Discussion

Significant differences existed between cultivars for percent cover, color (data not shown) and quality (data not shown) during the growing season.

The values listed under each month in Table 1 are the averages of the percent green cover. The last row states the Fisher's LSD (least significant difference), which is a statistical measurement of how widely the datum in each column must vary before these are considered to be different from one another.

Many of the cultivars continued to improve in percent green cover over the year, becoming fully established. Cultivars that had high quality ratings also tended to have higher color ratings, but due to space restrictions, color and quality data is not presented here.

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Table 1. Percent green cover for the NTEP creeping bentgrass fairway cultivar trial, 2021.

Cultivar	April	May	June	July	Aug	Sept	Oct	Nov
Penncross	68.5	99.3	99.4	99.9	99.9	99.3	94.8	83.9
Chinook (H10G-OP)	71.6	99.1	99.7	100.0	100.0	100.0	99.5	98.8
007XK	57.6	99.0	99.6	99.9	100.0	100.0	99.7	99.5
S1	68.7	98.6	99.7	99.8	100.0	100.0	99.6	98.8
TourPro	62.4	99.2	99.5	100.0	100.0	100.0	99.4	98.6
Piranha	33.4	97.9	97.2	99.6	100.0	100.0	98.5	98.2
Barracuda	49.9	98.1	98.8	99.5	99.6	99.8	98.8	96.7
Musket	46.2	96.9	99.7	99.9	100.0	100.0	99.0	97.3
Shark	59.4	98.8	99.6	99.9	100.0	99.9	98.7	93.3
Match Play	75.3	99.4	99.8	99.9	100.0	100.0	98.8	98.6
DLF-AP-3084	49.1	99.0	99.7	99.9	100.0	100.0	99.8	99.3
PVF-PV-1	46.1	96.7	98.9	99.8	100.0	99.9	99.6	98.7
PVF-PV-2	33.0	96.3	99.0	99.7	99.9	99.8	99.7	99.4
LNS 19	70.5	99.2	99.8	99.9	100.0	100.0	99.8	99.7
PPG-AP-MTV1	65.0	98.8	99.4	99.8	100.0	100.0	99.4	99.4
PPG-AP-MTV2	63.1	96.4	98.1	99.4	99.9	100.0	99.9	99.6
PST-0MRN	65.7	98.5	99.7	99.9	100.0	100.0	95.3	96.5
PST-0R20	56.4	98.7	99.1	99.6	99.9	100.0	98.3	97.6
PST-RODS	48.5	97.6	99.2	99.8	100.0	99.9	97.3	95.9
$LSD_{(0.05)}$[b]	21.9	3.2	1.9	0.5	0.2	0.2	2.0	3.5

[a]Percent green cover was determined by digital image analysis (0-100%).
[b]Means were separated using Fisher's LSD.