

Bentgrasses for Putting Greens

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Genetics plays an important part in the make-up of any plant, and bentgrasses are no exception. In the beginning all greens were established from seed grown in open pollinated fields. All of our present selections stem from this origin—from greens seeded at the turn of the century. It follows then that bentgrasses are not all alike due to inherited genetic characters.

As golf grew and people became involved in turfgrass study, they began to select strains that exhibited characteristics that they felt would improve putting greens. Special attention was given to qualities such as color, vigor, density, leaf texture, tendency to grain, tendency to thatch, growth habit (upright or flat), disease resistance, ability to withstand traffic, ability to tolerate herbicides, and other such characteristics.

Despite the fact that we have some excellent selections the search goes on. It is never ending. The turfgrass industry is growing and new selections are continually being funnelled into breeding programs at most of the universities. Today not all improved selections are vegetative. Some are seeded. A summary of available and most widely-used strains and varieties is as follows:

Seeded Varieties

(1) Colonial—Astoria, Highland, Holifer, and Exeter. Best suited for areas other than greens; lacks aggressiveness; rarely used on greens; exhibits upright growth and grows in clusters.

(2) Seaside—Wide variation in individual plants; biggest percentage not especially vigorous; other inherent weaknesses, but generally acceptable for putting greens. Superintendents who know how to manage it produce excellent greens. However, these are in the minority.

(3) Penncross—A true and uniform creeping bentgrass turf produced from seed; quite vigorous; aggressive; a tendency to become fluffy under certain type management; inferior quality seed contaminated the market until Pennsylvania State University officials recently tightened controls. Quality seed should again be available this year.

(4) Velvet—Offers limited seeded types (Kingstown is one of them); suited best to the northern latitudes of bentgrass adaptation. Pro-

duces excellent putting surfaces in spring and fall, but has inherent weaknesses in summer. Produces extremely dense, thin-bladed, upright-growing, uniform turf; develops excessive thatch; susceptible to iron chlorosis and certain diseases; lacks aggressiveness; requires far less nitrogen than other bentgrasses.

(5) South German—Once again available, but not of the same high quality as the seed produced prior to World War II when the then existing seed production fields were abandoned. The early seed was a mixture of colonial, creeping, and velvet types. Some excellent South German greens still remain even though seeded at the turn of the century. Because of these different types each green results in patchy, quilt-like pattern of grasses of various colors and textures.

Vegetative Selections

Individual strains of creeping bentgrass, mostly selected by turfgrass specialists from outstanding patches of South German and Seaside greens.

(1) Arlington—Most prominent feature is tendency to swirl; excellent traffic and wear qualities; mostly used in combination with Congressional.

(2) Congressional—Upright growth by itself makes fine putting surface, though mostly established in combination with Arlington; reported more resistant to snow mold affliction.

(3) Collins—Upright growth; not as aggressive as most creepers; originally recommended as third member of Arlington-Congressional-Collins combination turf but seems to have been eliminated by most; planting stock scarce.

(4) Cohansey—Light green (apple) color; very aggressive; upright growth; forms a true putting surface; well-suited also to the southern as well as northern range of bentgrass adaptation; one of the few bents that competes favorably with *Poa annua*. Because of its light green color must be planted alone; combinations form a mottled, non-uniform putting surface.

(5) Toronto—Thin-bladed, tight and upright growth; forms a true putting surface; exhibits a tendency towards reduced summer vigor; best in spring and fall.

(6) Washington—Thin-bladed, upright; forms

a true, tight putting surface; at best in summer season; cool season purple color objectionable to some.

(7) Old Orchard—Lighter green than all others except Cohansey; best in spring and fall, weakest in summer performance.

(8) Metropolitan—The early symbol of a very grainy putting surface; no longer recommended for greens.

(9) Pennlu—Did not perform up to expectation; forms heavy thatch, excessive grain; results in a fluffy, puffy surface.

(10) Velvets—Refer to (4) under seeded; same general traits for vegetative and seeded velvet bentgrasses.

(11) Nimisila—Dark green in color; upright in growth; good texture; becoming more widely

used; good reports; appears also to be doing quite well in southern areas of bentgrass adaptation.

Other selections have been released by individual Experiment Stations such as Pennpar by Penn State, and Evansville by Purdue, which will become better known as new greens are established to these bentgrasses. Because these creeping selections are available only as vegetative stock, trueness to type depends greatly on integrity of the growers. It is most important to purchase planting stock only from growers in whom you have extreme confidence, for only if it is free of contamination will you be assured that you are getting the proper planting material, the selection of your choice.

Popular Bermudagrass Strains: Requirements and Peculiarities

by JAMES B. MONCRIEF, Southeastern Agronomist, USGA Green Section

Common, bermudagrass, *Cynodon dactylon* (L.), at one time was used exclusively on southern putting greens. It is believed to have been introduced into the United States at about 1751, but common bermudagrass is rarely used on greens now and has been replaced with new selections. However when used, it requires a light topdressing at four week intervals to present a puttable surface.

Each spring the greens have to be reseeded due to the poor quality of the turf during the transition period. This factor alone caused intensive research for better bermuda strains for use on greens.

Everglades

Everglades is a medium green bermudagrass selected at Bayshore Golf Club, Miami Beach, Fla., by Dr. Roy Bair, of the Florida Agricultural Experiment Station, in 1945. It is supposed to be a natural cross between a native Florida turf-type bermudagrass and species from South Africa supplied by the USGA Green Section at that time.

Everglades holds its green color during cool weather better than Tifgreen, but it does not produce a superior putting surface. A tour of

courses during January in Southeast Florida showed scuffing on Everglades to be worse than on Tifgreen.

It is used mostly in South Florida, and it is seldom used on new greens today.

Bayshore

Bayshore (Gene Tift) was selected at the Bayshore Golf Club, Miami Beach, in 1945 by Dr. Bair and is believed to have originated in the same manner as the Everglades selection.

It is light green in color, and is best adapted to the Southeast Florida area. However, it is gradually being replaced by Tifgreen or Tifdwarf.

Numerous variations are appearing in Bayshore greens. So far none of these has shown much promise. Under growing conditions of drought and unbalanced nutrients in the soil, seed heads can be numerous, but in most cases they can be reduced by good use of water and nitrogen. Two pounds nitrogen per 1,000 square feet per month in most cases is sufficient in a 3-1-2 to a 4-1-2 ratio.

Tiffine

Tiffine is a F_1 hybrid of *Cynodon dactylon* and *C. transvaalensis* from the East Lake Country