KINGPIN CREEPING BENTGRASS

BREEDER

NJAES/Rutgers University

DESCRIPTION

Kingpin is the newest, improved, high shoot density creeping bentgrass developed by turf scientists at Rutgers University. "It is the culmination of 7 years of extensive plant collection, hybridization, testing and evaluation," states Dr. Bill Meyer, Professor of Turfgrass Science at Rutgers University. Kingpin produces an erect, non-grainy, uniform, very dark green, low height of cut (LHC) putting surface. Kingpin is the ideal variety with high density and putting green speed. The canopy of Kingpin is dense, but not so dense that mechanical penetration of the turf must be performed to allow topdressing to be worked into the canopy.

APPLICATION

Developed exclusively for LHC lawn surfaces, golf course greens, tees and fairways; croquet and tennis courts; and bowling tops. Kingpin is also used as a component in winter overseeding blends and mixtures containing improved Poa trivialis, red top, velvet and colonial bentgrass.

PERFORMANCE

Kingpin has been tested extensively in low height of cut (LHC) NTEP greens, tees and fairway trials. Kingpin was most recently entered in the 2003 National Bentgrass Putting Green and Fairway/Tee Test conducted at twenty seven (27) and twenty three (23) U.S. and Canadian locations respectively. Results from Rutgers University indicate that Kingpin provides enhanced turf characteristics such as deep green turf color, high shoot density, wide area of adaptation, high resistance to brown patch and dollar spot, tolerance to heavy traffic – not prone to tufting, spiking or thinning, provides a grainless putting surface and exhibits good spring green up and holds color late into fall.

DENSITY

Kingpin was developed in cooperation with turf scientists at Rutgers University for improved turf quality, high shoot density and improved disease resistance. Kingpin also has improved heat and desiccation tolerance.

Kingpin was selected to provide the ideal density. Many people have selected grasses purely on the highest shoot density count with no regard for putting green speed. While density is a strong factor in the selection process, we should be very careful that in the selection process we consider other factors. Those other factors include highest putting green speeds at the highest cutting heights, ability to accept topdressing sands, minimal thatch and mat accumulation, and reasonable ball mark healing. Kingpin will allow the Superintendent to maintain very fast speeds at higher heights of cut than any of the ultra dense types, while maintaining the truest of rolls.

Kingpin can also be topdressed without requiring aeration, spiking, verticutting, or any other mechanical process. Simply topdress and drag mat or brush to the topdressing in. The ability of Kingpin to uniformly accept topdressing into the turf canopy affords the turf manager the ability to effectively control thatch/mat build up, which is a plague to the ultra-dense types. Ball mark repair and even plugging has become a maintenance nightmare with ultra dense bentgrasses. Kingpin, while being very upright in nature, has improved ball mark healing qualities when compared to ultra-dense types.

TURF CHARACTERISTICS

Growth Habit	Estab. Rate days	LHC Tol. ½"	Mowing Freq.	Traffic Tol.	Thatch prod	Comp Mix	N. Req.	Shade Tol.	Cold Tol.	Drought Tol.	Et rate mm/day	Endophyte	Salinity Tol. mmhos
Stolons	Med. 14-21	Excell.	Daily	Excell.	Med.	n/a	Low-Med 2-4 lbs.	Fair	Good	Good	High >10	No	15 Good

*LHC=low height of cut, ET=evapotranspiration, N=nitrogen*per 1,000 ft²; rates may increase or decrease based on location, soil type, irrigation practices, desired turf quality, humidity & other abiotic and biotic factors.*

CULTURAL PRACTICES (Grown-In)

Fertility: Creating a nutrient balanced growing medium for seedlings is critical to the successful grow-in. Since the typical USGA growing medium is relatively sterile, it is imperative that the Superintendent create a balanced living soil. Nutrient/amendment plans that contain all of the essential nutrients and some composted fertilizer products have proven the most successful. Fertilize greens to achieve reasonable aggressive turf development. Synthetic slow release fertilizers are not encouraged, organic fertilizers in conjunction with readily available fertilizers. Phosphorous should always be a component of applications.

Seeding Rate: A total of 1.5 lbs/1,000 ft^2 of seed should be applied from a drop spreader. The seeding should be done in a minimum of three (3) different directions. The green should be irrigated prior to seeding to firm the green mix as needed. Immediately after seeding the greens should be lightly raked in three (3) directions and then rolled with a very light hand roller (round edges).

Irrigation: During establishment, it is critical that a close eye is kept on newly seeded greens. Dependent upon the weather conditions it may be necessary to irrigate lightly as often as every 45 minutes during the heat of the day. It is important to pay attention to making sure that the sprinkler makes a full rotation and also that there is no runoff from part circle heads.

Mowing: Begin mowing at 0.225-0.25 inch. Cutting height reductions are achieved immediately after topdressing and should be done in increments of no greater than 0.05 inch. The key to this height reduction strategy is that by mowing at the new height after topdressing that the grass plant will not be shocked.

Topdressing: New greens need to be topdressed to prevent a "grow-in" layer.

Opening New Greens: New greens will mature based upon the management techniques utilized and the weather conditions. It is possible to open greens in as quickly as 3 months and sometimes as long as 10 months. This is usually based upon the climate.

CULTURAL PRACTICES (Existing Greens)

Topdressing: Greens should be topdressed every 14 days during the active growing season. Topdressing rates should be such that a ton of sand will cover approximately 3 greens and that after dragging in with a mat, that greens are very puttable and a mere trace of sand is evident to the trained eye. Irrigation after topdressing is desired and can be timed with fertilizer or other soil amendment applications. The ideal result of a topdressing program is the creation of a mat/topdressing hybrid on the surface of the green that is resilient to traffic and allows water, air and roots to pass freely into the green mix.

Grooming: A very light grooming of the turf can be accomplished with mower mounted groomers a minimum of 4 days in a row on the weeks that topdressing is not applied. Groomers should be turned off for cleanup passes.

Fertility: Soil reports should be used to achieve balanced soil fertility for healthy plant growth. Nitrogen application should be based upon clipping yield. Potash levels should always be maintained on the high side for bentgrass that will be under any environmental stresses. Phosphorous levels must be adequate to promote healthy turf and deep rooting. Adequate levels of Phosphorous do not cause Poa annual infiltration, whereas conversely high and low levels will create opportunity for Poa annua to infiltrate. Spray applications of nutrients including minor and macro nutrients improve all turfgrass health.

Growth Regulators: There are excellent options to utilize growth regulation on putting greens to improve putting green speed, improve lateral growth, improve root mass, and possibly control Poa annua. These practices have become common place in putting green management.

Irrigation Management: Kingpin will adapt to many different irrigation practices. Ideally deep and infrequent irrigation should be utilized while soil temperatures still allow root growth. Hand watering of knobs and ridges is encouraged instead of watering all of the green when 5% of it is under stress. When soil temperatures increase more frequent irrigation may become necessary.

Aeration: Greens should be on close spacing spring and fall. Topdressing should then be applied and dragged in followed by a thorough irrigation. A follow up topdressing may be required to completely fill the aeration holes. Fertilizers and soil amendment can be applied prior to dragging or after dependent upon what is trying to be accomplished.

Disease Control: Kingpin is one of the most disease resistant bentgrasses ever developed; however there are many regions in the world where disease pressure is severe and other regions where there is little pressure. Treat preventively if pressures warrant.