

Bermuda-Rye Greens Conversion at Nashville

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Nashville and vicinity present problems in turf management on golf greens which are different than the ones encountered in sections farther south due to extremes in weather conditions. The winters in Nashville are very cold, with snow and sleet quite common. Temperatures sometimes go to zero with freezing nights and warm days frequent. But there are enough warm days throughout the winter for golfers to demand courses that are kept in good playable condition the year around.

As a rule, rye grass for winter play is seeded at Nashville during the first week in October, and never later than the second week of that month regardless of weather. We know from experience that the rye grass must be well established before cold weather. Once established it will withstand cold without losing color but needs warm weather for germination and initial growth. We have not used bent or other northern grasses. They may be all right farther south but in Nashville they go off color more than rye grass during mid-winter.

The Bermuda turf is sacrificed before seeding the rye grass. Greens are hand-raked and then cross mowed with power mowers. This is done for two reasons; first, to remove the excess of Bermuda grass so the rye grass seed can make contact with the soil, and second, to set back and check the Bermuda in case weather should continue warm enough for its growth after the rye grass is seeded. Sacrificed Bermuda cannot make enough growth to crowd out the young rye grass.

Approximately three-quarters of each green is seeded. A small portion in front is left for play. The rye grass is sowed heavily at approximately 40 to 50 pounds per 1,000 sq. ft. and is put down with a fertilizer spreader in two directions using half the seed in each direction. Cross seeding eliminates streaking. The greens are topdressed lightly after seeding, using just enough to cover the seed. By keeping the green moist the seed will start to germinate in six days and will be up and out of the ground in nine days.

Mowing of New Rye

Mowing starts on the ninth day with mowers set at $\frac{5}{8}$ inches. Height of cut is lowered gradually to approximately $\frac{3}{16}$ inches. Mowing starts around the ninth day after seeding and greens are opened for play the following week. Then the front

part is seeded using the procedure described above.

All mowers are overhauled and sharpened to razor-like sharpness so they cut clean without pulling out the tender young grass seedlings. A razor-sharp mower is the secret of early cutting at approximately one-half inch.

Milorganite is applied at 40 to 50 pounds per 1,000 sq. ft. during the second week after seeding, and again four weeks later. Fertilization was omitted purposely before seeding to prevent the rye grass from becoming soft and fall prey to damping-off. Nitrogen feeding would also make the Bermuda grow more aggressively should weather stay warm enough for it to grow.

The two applications of Milorganite carry the greens through December, January and February. Greens are topdressed in March and fertilized with 5-10-5 or Vigoro, followed by sulfate of ammonia at three-week intervals using 10 pounds of sulfate to each 1,000 sq. ft.

By April the greens are in beautiful shape. Everything done then until the rye grass dies out is aimed to help bring the Bermuda back. Starting in April the greens are forked, using a three-pronged fork. The fork is inserted into the soil every 4 to 5 inches. It is inserted to a depth of 5 to 6 inches and the handle is moved back and forth, to loosen the soil. This operation gets air to the Bermuda roots and helps drainage. Greens that are imperfectly drained are forked twice if at all possible. From experience we have found that Bermuda comes through best on greens with good drainage.

Gradual Transition to Bermuda

No attempt is made to kill the rye grass. In fact efforts are made to keep it as long as possible and to make the transition from rye grass to Bermuda grass a gradual one so play is not affected or interrupted. The rye grass lasts through May and well into June. When it begins to die the greens are spiked and sowed with 30 to 50 lbs. of hulled Bermuda grass seed to each green. They average 4,000 to 5,000 sq. ft. Then the greens are fertilized with Milorganite and sulfate of ammonia and topdressed. The transition period never lasts more than three weeks. Greens that have good drainage often have good Bermuda turf in ten days after disappearance of the rye grass.

The biggest problem connected with the transition period is crabgrass and crowfoot, or silver crabgrass. These weeds get started because the stand of Bermuda is thin. The use of rye grass for winter play weakens the Bermuda and retards its initial growth in spring. We intend to use a good knife on crowfoot, as in the past, and will rely upon PMAS or Milarsenite for the crabgrass. Results obtained with PMAS in 1947 were very encouraging.