FERTILITY AND SIMULATED TRAFFIC EFFECTS ON KENTUCKY BLUEGRASS / SUPINA BLUEGRASS MIXTURES

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Abstract

Poa supina has shown potential for athletic fields due to an aggressive stoloniferous growth habit. The objective of this study was to evaluate seeding mixtures of *Poa supina* 'Supra' (supina bluegrass) and *P. pratensis* 'Touchdown' (Kentucky bluegrass) under varying fertility and traffic treatments. Six seeding mixtures of *P. supina* and *P. pratensis* (0, 5, 10, 25, 50, and 100% *P. supina*) were established as whole plots on a sand based root zone mix in June 1995. Nitrogen fertility (low: 20 g N m^{-2} yr^{-1} and high: 30 g N m^{-2} yr^{-1}) and traffic, using the Brinkman Traffic Simulator, were stripped over these mixtures. Plant counts to determine species composition were done in the spring of each year (1997-2000). Turfgrass cover (% cover) and shear resistance (Nm) was also determined prior to and during traffic applications. Results indicate that increased traffic increases the aggressiveness of *P. supina*; by 2000 the trafficked plots seeded with only 5 and 10% *P. supina* were 99 and 96% *P. supina*. Trafficked plots seeded with 0 and 5% of *Poa supina* had the highest turfgrass cover and shear strength, indicative of the importance of the presence of *Poa pratensis* in these mixtures. The results suggest, seeding a mixture of only 5 or 10% *P. supina* is enough to increase the *P. supina* composition to dominate the stand while maintaining acceptable turfgrass shear strength.

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