

Seeding mixtures recommended for midwest lawns

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Turfgrass professionals have created seed mixes specifically blended to ensure disease and insect resistance, water use efficiency, and tolerance to traffic. For example, a commonly used mixture of kentucky bluegrass (KBG) and perennial ryegrass (PRG) seed offers advantages such as rapid germination and establishment and provides turf cover that can compete with weeds. A new study shows how initial composition of KBG:PRG in the seed mixture affects species composition over multiple years in the Midwest, and offers recommendations about seeding ratios for optimal results.

Although the KBG:PRG seed blend is popular with consumers, both types of seeds have distinct advantages and drawbacks. Despite its ability to germinate quickly, perennial ryegrass is susceptible to numerous diseases when grown in humid regions of the Midwest United States, and can become thin during the heat and humidity of late summer or when subjected to winter stresses. Kentucky bluegrass is slow to germinate and establish, but is desirable in the long term because it spreads by rhizomes, is relatively drought tolerant, and will accommodate a wide range of management systems. Christopher Proctor and Zachary Reicher from the University of Nebraska-Lincoln, and Daniel Weisenberger from Purdue University, published a study in *HortScience* that provides new recommendations for initial composition of the common seed mixture.

"Landscape contractors are pressured to deliver lawns from seed quickly for customer satisfaction," the authors said. "However, few studies have

evaluated how initial composition of KBG:PRG in the seed mixture affects species composition over multiple years in the humid Midwest, just north of the transition zone of adaptability between cool- and warm-season turfgrasses." Proctor, Reicher, and Weisenberger studied the establishment and species composition after 3 years of a turf stand seeded with different ratios of KBG and PRG maintained as a lawn. They conducted experiments in West Lafayette, Indiana, using seed mixtures of KBG:PRG of 100:0, 90:10, 80:20, 70:30, 50:50, and 0:100 of pure live seed. The plots were seeded in late August, and the researchers rated speed of cover for 6 weeks after seeding and also percent KBG in the stand in August for 3 years. According to the authors, analyses showed that 100% PRG, 50:50, 70:30, or 80:20 KBG:PRG ratio had the highest percentage turf cover at 6 weeks after seeding during establishment because of the quick germinating and establishing PRG. This was especially important in 2007, when late summer heat stimulated late summer crabgrass germination. Regardless of turf cover during establishment, all treatments except 100% PRG shifted to greater than 95% KBG cover by 3 years after establishment.

"For the region in which our study was conducted, it may be desirable to [seed](#) with a higher proportion (greater than 50%) of PRG to speed initial establishment for customer satisfaction, erosion control, and/or to offset years with high weed pressure," the authors said. "Under lawn conditions similar to our study, seeding ratios with high KBG (80:20 or 90:10 KBG:PRG) will likely shift to a stand composition of greater than 95% KBG within 2 years, whereas all other ratios lower in KBG will likely shift similarly within 3 years."

More information: *HortScience*, hortsci.ashspublications.org/content/50/1/137.abstract

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