The Potential of Lolium x Festuca Hybrids for Turf Use. (C05-lukaszewski103526-Oral)

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Abstract:

Ryegrasses, particularly Lolium perenne, are highly desirable cool-season turf grasses but exhibit several deficiencies and limited genetic variation. These problems can be mitigated by introgressions from genus Festuca. Despite major differences between the genera at the DNA level, as demonstrated by the DNA content and by easy discrimination of genomes by GISH, their chromosomes are capable of frequent pairing and recombination. The pattern of recombination is changed from localized distal in the parents to random in the hybrids. This makes the entire genomes available for manipulation and appears to release an enormous range of variation. The complementarity of the agronomic profiles of the two genera and the compatibility of their chromosomes has been utilized in the development of forage Festulolia. The same approach can be used in turfgrasses to combine the best characteristics of the parental species. Observations of several generations of hybrids of L. multiflorum and L. perenne with F. pratensis have shown an enormous range of variation for all observable characteristics, including those of interest in the turf industry. Selection quickly increased the frequencies of the desired turf characteristics and improved fertility of the advanced generations

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