Identification and characterization of creeping bentgrass (Agrostis palustris Huds.) cultivars using microsatellites (C05-kubik070010-Poster)

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Abstract:

Simple sequence repeats (SSRs) have proven to be useful molecular markers for cultivar identification in a wide variety of plants including the turfgrass species perennial ryegrass (L. perenne L.). However, they have yet to be widely applied to other turfgrass species. Bentgrasses are important cool season grasses due to their ability to tolerate low mowing heights, a feature necessary for the establishment and maintenance of golf course greens in temperate and sub-arctic climates. As a result, the demand for new and improved bentgrass cultivars increases each year. Reliable and definitive cultivar identification becomes critical to maintain varietal purity and to protect both breeder and consumer rights. Some current methods of cultivar identification fail to discriminate with certainty among closely related individuals; however SSRs have proven to be highly variable in many other plant species including perennial ryegrass and are therefore very useful for culitvar identification. We propose to isolate SSRs from the creeping bentgrass genome to assess genetic diversity among creeping bentgrass cultivars. Knowledge of genetic diversity is important to breeders so they can fully utilize their genetic resources.

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