Evaluation of Flow Cytometry as a Tool for Determining Chromosome Number in Kentucky Bluegrass. (C05-eaton161318-Oral)

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Abstract:

Our primary objective was to quantify the DNA content of Kentucky bluegrass cultivars by means of flow cytometry. Our secondary objectives were to determine whether variability in DNA content exists between and within morphological types of cultivars and to evaluate the effectiveness of flow cytometry as a means of determining ploidy level in Kentucky bluegrass. The morphological types belong to a system of classification in which twelve types of Kentucky bluegrass cultivars were categorized on the basis of morphological traits. We randomly selected one plant to represent a cultivar from each type of Kentucky bluegrass. Intact nuclei were isolated from each plant and run through a flow cytometer in order to determine DNA content. We found no apparent similarity in DNA content within groups of cultivars or between groups of cultivars. These results support previous findings that variation in DNA content among cultivars of Kentucky bluegrass exists and suggests that DNA content does not affect the morphological traits used in the classification system. As a result, researchers working with Kentucky bluegrass may need to consider many factors when interpreting their results.

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