Consistency of Intraspecific Genome Size Variation in Soybean as Detected by Flow Cytometry. (C01-rayburn102505-Poster)

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Abstract:

Reports of genome size variation in soybean (Glycine max (L.) Merr.) have ranged from 40% to 0%. This wide range has resulted in doubts of the existence of intraspecific DNA variation in soybean and led to questions as to the validity of various techniques to detect true intraspecific nuclear DNA content. Eighteen soybean lines were analyzed by flow cytometry to determine their genome size. The lines were selected based on diversity of origin. After the initial analysis, four lines were selected and reanalyzed. In a further examination, seeds from several lines were planted in different locations in the U.S., grown to maturity, harvested and the seeds returned to Illinois. The harvested seed was analyzed. In a fourth experiment, the genome size of several of the accessions was reanalyzed using a weedy amaranthus species as an internal standard. These results will be discussed in light of recent evidence has suggested that compounds present in plants can interfere with the propidium iodide fluorescence.

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