

**Working Group on Biochemical and Molecular Techniques
and DNA-Profiling in Particular**

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**FACILITATING DISTINCTNESS, UNIFORMITY AND STABILITY TESTING OF SOYBEAN VARIETIES:
DEVELOPMENT AND VALIDATION OF MOLECULAR MARKER AND VARIETY SAMPLING
METHODOLOGIES**

Document prepared by an expert from the Seed Association of the Americas (SAA)

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It is becoming increasingly challenging using only morphological characteristics to adequately and efficiently assess candidate varieties of soybean [*Glycine max* (L.) Merr.] for the Distinctness, Uniformity, and Stability (DUS) criteria that are required to be met for the grant of Plant Breeders Rights (PBRs). As an initial step to facilitate the evaluation of DUS in soybean we evaluated the discrimination capability, levels of intra-variety heterogeneity, and robustness of Single Nucleotide Polymorphism (SNP) data using publicly available soybean varieties, including those previously determined to meet DUS criteria. In addition, we measured concordance of SNP profiling across five laboratories. We then determined a sampling strategy to provide the basis for the characterization of soybean varieties using SNPs.

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