# Genetic divergence in a soybean (*Glycine max*) diversity panel based on agro-morphological traits

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**ABSTRACT.** Owing to the narrow genetic basis of soybean (*Glycine max*), the incorporation of new sources of germplasm is indispensable when searching for alleles that contribute to a greater diversity of varieties. The alternative is plant introduction, which may increase genetic variability within breeding programs. Multivariate techniques are important tools to study genetic diversity and allow the precise elucidation of variability in a set of genotypes of interest. The agro-morphological traits of 93 soybean accessions from various continents were analyzed in order to assess the genetic diversity present, and to

highlight important traits. The experimental design was incomplete blocks (Alpha lattice, 8 x 12) with three replicates. Nine agro-morphological traits were analyzed, and principal component analysis and cluster analysis were performed, the latter by Ward's method. The dendrogram obtained contained eight subgroups, confirming the genetic diversity among the accessions and revealing similarities between 11 national genotypes. The geographical origin of the accessions was not always related to the clusters. The traits evaluated, and the methods used, facilitated the distinction and characterization of genotypes between and within groups, and could be used in Brazilian soybean breeding programs.