MORPHOLOGICAL CHARACTERIZATION OF UGA-SAM1 SUNFLOWER ASSOCIATION MAPPING POPULATION

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ABSTRACT

In order to use germplasm collections more efficiently and effectively, it is important to characterize the diversity of the germplasm. The objective of this study was to assess morphological diversity of a sunflower association mapping population UGA-SAM1 composed of 286 accessions and obtained from the USDA sunflower collection. Accessions were characterized for 10 traits to determine available morphological variability. The Shannon-Weaver diversity index (*H'*) was used to determine allele richness according to the frequency of genotypes in each nominal class. Phenotypic variation was found for all evaluated traits with *H'* values ranging from 0,45 to 0,90. The highest diversity was found for leaf lateral veins angle and height of the tip of the leaf blade compared to insertion of petiole, while least diversity was found for seed color and leaf shape. Homogeneity analysis by means of alternating least squares (HOMALS) grouped accessions to three major clusters: 1) RHA-Oil, 2) RHA-Oil and RHA-non Oil and 3) a mix of remaining accessions including Oil and non Oil accessions. The presented results confirm usefulness of UGA-SAM1 as a rich source of variability and as such a valuable resource for sunflower research.

Key Words : Characterization, diversity index, Germplasm, morphological, UGA-SAM1