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STEREOLOGICAL ANALYSIS OF SUGAR BEET PETIOLE

Stereology is an interdisciplinary field that enables three-dimensional interpretation of planar sections of diverse materials. Based on mathematical principles, stereological methods are useful tools for quantitative evaluation of structural characteristics of plant organs. Water is becoming more and more limiting factor of sugar beet production. Consequently, the productivity of the crop can be significantly improved by increased drought tolerance. Assessment of the degree of variability of anatomical and morphological traits of breeding material with respect to water use efficiency and drought can be used as potential markers for selection of sugar beet genotypes with better tolerance to water deficiency. Petioles, as a plant organ which have the main function in transportation of organic and inorganic molecules between leaves and fleshy beet root, also gives mechanical support to leaf blades. Therefore, we performed a stereological analysis of the sugar beet (*Beta vulgaris* L.) petiole in ten genotypes of variable drought tolerance. Emphasis has been laid on the relationship between morphoanatomical characteristics and the capacity of sugar beet to overcome drought.