

ESTIMATES OF GENETIC PARAMETERS IN SWEET SORGHUM

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The cultivation of sweet sorghum is a complementary alternative to sugar cane regarding to ethanol production, because sweet sorghum presents stalks with good sugar yield. Thus, sweet sorghum can be used during the off-season of sugar cane. Sweet sorghum Presents various advantages that make possible the cultivation, such as low cost production, short cycle, mechanical harvesting and its bagasse can be used as an energy source. Within the main objectives of breeding programs of sweet sorghum, the improvement of sugar content and quality and the increase of green biomass productivity are preferred. Therefore, it is important to know the genetic parameters related to such characters in order to assist the selection of genotypes. The objective of the study was to estimate the genetic parameters of agronomic characters of 25 sweet sorghum genotypes in Cáceres-MT. The experiment was conducted in the experimental area of Universidade Estadual do Mato Grosso (UNEMAT). Twenty-five genotypes of sweet sorghum were evaluated in randomized blocks with three replications and the characteristics evaluated were: number of days from planting to flowering (FLOWERING); average plant height (ALTP); average number of stalks (NC); average stem diameter (DC); average volume of broth (VC) and total soluble solids (°BRIX). The data were submitted to analysis of variance and the analysis of genetic parameters using the software Genes. Significant at 1% probability for FLOWERING, ALTP, NC, PMS, NC, DC and ° Brix, and significant at the 5% for the PMV and VC difference was detected, showing genetic variability among the genotypes. The phenotypic and genetic variances among genotypes were of low magnitude for ALTP, NC, PMV, PMS, NC, DC, CV and Brix, except FLOWERING that presented values of 24.98 to 23.06, and phenotypic variance and genotypic respectively, indicating the existence of high degree of genetic variability among genotypes and suggesting the possibility of success for selecting them. The heritability estimates were high for FLOWERING magnitude, and ALTP and NC with 92.33%, 92.26% and 90.45%, respectively. Such index reflects the presence of considerable genetic component in the expression of this character. The index variation presented high estimate for FLOWERING, ALTP, NC and NC with values of 2.00, 1.99, 1.78 and 1.39 respectively, indicating that they are favorable in the selection process. In general, there is significant variability among the evaluated genotypes of sweet sorghum. The genetic parameters indicate great possibilities of success in breeding programs aiming the selection of the characteristics evaluated by the present study.

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ABSTRACTS

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