ESTIMATION OF GENETIC PARAMETERS AND GENETIC DISTANCE OF NINE S7 SWEET CORN (*Zea mays L. saccharata*) LINES

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ABSTRACT

The making of hybrid sweet corn is one of attemps to increase the productivity of sweet corn in Indonesia. This study aims to obtain the results of the analysis of genetic varians, broad-sense heritability, and genetic distance between the nine sweet corn lines. This research used a Randomized Complete Block Design (RCBD) with nine treatments and three replications. The treatment consisted of nine lines of sweet corn, namely BFe 19, BFe 40, BFe 46, BFe 69, BFe 122, and BFe 123, TLT 2-43-12, SBO 2-23-12, CMP 8-1-47. The results of the observations were analyzed using analysis of variance (ANOVA), then continued using Duncan's Multiple Range Test, estimation of the coefficients of genetic varians, genetic correlation, and cluster analysis. The results showed the value of broad genetic varians in plant height, leaf width, cob length, cob diameter, degree of sweetness, and cob weight without husks characters. High heritability values were obtained for the characters of plant height, leaf length, leaf width, cob length, cob diameter, degree of sweetness, and cob weight without husks. Plant height, stem diameter, leaf length, leaf width, cob length, and cob diameter have positive correlation with cob weight without husk. The TLT 2-43-12 line from group A has the potential as parents to form hybrid maize because it has the farthest coefficient of similarity with other lines.

Keyword: sweet corn, genetic variability, genetic distance.