CORRELATION ANALYSIS AND ESTIMATION OF GENETIC PARAMETERS AGRONOMIC CHARACTERISTICS AND RESULTS OF THE NINE SWEET CORNS (*Zea mays var. saccharata* Sturt) GENERATION S-3

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ABSTRACT

Sweet corn is one type of plant that is widely cultivated in Indonesia, especially as a food ingredient. The strategy to increase sweet corn production can be done through plant breeding. The aim of this study was to determine genetic diversity, heritability and correlation in the S-3 generation of sweet corn lines. The research was conducted at the Experimental Garden of the Agriculture Faculty UPN "Veteran" Yogyakarta. The research method uses Complete Randomized Block Design (RAKL) using 9 S3 generation sweet corn lines including CMP-5/49/69, CMP 5/49/68, CMP-5/49/94, CMP-8/1/66, CMP-6/7 /97, CMP-5/49/13, CMP-5/49/59, CMP-5/49/92, CMP-8/1/72. Data were analyzed using a 5% level of variance, the Scott Knott test is continued, then genetic diversity estimation, heritability estimation and correlation analysis. The research results showed moderate KKG values on the parameters of leaf length, cob height and cob number. High heritability values on the parameters of plant height, number of leaves, age of female flowering and cob height. Genetic correlation analysis of growth characters correlated closely with yield components, namely plant height and number of leaves with cob height and cob weight without cob, leaf length with cob length and cob weight without cob. While the correlation between the yield components include cob height, cob length and cob diameter with cob weight without corn starch.The line of CMP 5/49/59 and CMP 5/49/92 have the potential for dual parentage.

Keywords*: Sweet Corn, Genetic Diversity, Heritability, Correlation.*