ESTIMATION OF GENETIC PARAMETERS OF CROSSING KOREA MELON WITH GOLDEN MELON AND DN-1 MELON THROUGH SMART FARMING CULTIVATION

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ABSTRACT

Estimation of genetic parameters is a component in efforts to improve plant characteristics. Genetic parameters usually include estimating the coefficient of genetic diversity, heritability and correlation between traits. The aim of the research was to determine genetic diversity, heritability values of morphological characters, growth and results of crossing Korean melons with golden melons and DN-1 melons. This research was carried out in March-June 2021 at Green House CV. SG Agroniaga located in Maguwoharjo Village, Depok District, Sleman Regency, DIY. The experiment used a Completely Randomized Design (CRD) with a single factor consisting of 5 genotypes, namely the Korean, Golden, DN-1, Korea x Golden and Korea x DN-1 varieties. Observational data were analyzed using variance and further tests using the Duncan Multiple Range Test (DMRT) at a real level of 5%. The research results showed large genetic diversity coefficient values for the parameters of plant height at 21 DAT, fruit weight and fruit flesh thickness. High heritability values for the parameters of flowering age, plant height 21 DAP, plant height 35 DAP, stem diameter 21 DAP, stem diameter 35 DAP, number of leaves 21 DAP, number of leaves 35 DAP, fruit weight, fruit diameter and fruit flesh thickness. The expected value of genetic progress is high in the parameters of plant height, fruit weight and fruit flesh thickness. A variety that has the potential to be used as a potential parent is the Golden variety.

Keywords: Melon, Genetic Parameters, Coefficient of Genetic Diversity, Genetic Advancement of Hope, Heritability