INTISARI

Evaluasi parameter genetik merupakan langkah penting dalam seleksi galur untuk perakitan varietas unggul yang memiliki ketahanan terhadap *Begomovirus*, berumur genjah, dan daya hasil tinggi. Rancangan persilangan *North carolina* Design II digunakan dalam penelitian ini untuk mengevaluasi enam genotipe hibrida hasil persilangan dua tetua betina dan tiga tetua jantan. Genotipe hibrida dan tetuanya ditanam dengan rancangan *incomplete block design* dengan tiga ulangan dan tiga blok di setiap ulangan, pada November-Desember 2024, di PT. *East West Seed* Indonesia. Perbedaan yang signifikan ditunjukkan oleh tetua betina, tetua jantan, dan hibrida pada karakter jumlah cabang samping, intensitas serangan *Begomovirus*, umur berbunga, umur panen, panjang buah, panjang tangkai buah, jumlah buah, dan bobot buah. Hasil analisis varian genetik menunjukkan nilai duga varian aditif lebih besar dari pada varian dominan pada karakter umur berbunga, umur panen, panjang tangkai buah, jumlah buah, dan bobot buah, yang menyebabkan nilai heritabilitas arti sempit yang tinggi pada karakter tersebut. Evaluasi parameter genetik digunakan untuk seleksi hibrida dan dihasilkan dua genotipe hibrida, yaitu KE04 dan KE03, yang memiliki sifat ketahanan tinggi terhadap *Begomovirus*, umur genjah, dan daya hasil relatif tinggi.

Kata kunci : mentimun, daya gabung, heterosis, varian genetik, heritabilitas.

ABSTRACT

Evaluation of genetic parameters is a crucial step in selecting lines for the development superior varieties with high resistance to *Begomovirus*, early maturity, and high yield potential. The North Carolina mating design II was adopted in this study to evaluate six hybrid genotypes derived from crosses between two female parents and three male parents. The hybrid genotypes and their parents were planted using an incomplete block design with three replication and three blocks per replication, in November–December 2024, at PT East West Seed Indonesia. Significant differences were observed among female parents, male parents, and hybrids for branch number, *Begomovirus* disease severity, days to flowering, days to harvest, fruit length, peduncle length, fruit number, and fruit weight. Analysis of genetic variance indicated that additive variance was higher than dominance variance for days to flowering, days to harvest, peduncle length, number of fruit, and fruit weight, which contributed to high narrow-sense heritability for these traits. Two superior hybrid genotypes, KE04 and KE03, were identified through the evaluation of genetic parameters, characterized by high resistance to *Begomovirus*, early maturity, and relatively high yield potential.

Keywords : cucumber, combining ability, heterosis, genetic variance, heritability.