

## INTISARI

Jagung manis (*Zea mays* L. Kelompok *Saccharata*) merupakan komoditas hortikultura bernilai ekonomi tinggi, namun produktivitas dan kadar kemanisannya pada beberapa varietas lokal masih rendah. Penelitian ini bertujuan mengevaluasi potensi genetik sembilan galur inbrida jagung manis generasi S5 milik Fakultas Pertanian UGM melalui persilangan setengah dialel untuk menduga daya gabung umum (DGU), daya gabung khusus (DGK), dan nilai heterosis pada karakter agronomis dan mutu hasil. Penelitian dilaksanakan pada Mei–Desember 2023 menggunakan rancangan acak kelompok lengkap dengan tiga ulangan. Hasil evaluasi menunjukkan bahwa tetua P1, P3, P9, dan P2 memiliki nilai DGU positif tinggi pada karakter bobot tongkol sedangkan P5, P3, P2, dan P7 pada karakter padatan terlarut total. Hibrida H12, H26, H34, H1 dan H16 menunjukkan DGK dan heterosis terbaik pada karakter bobot tongkol, dan H34, H3, H16, H36, dan H13 pada karakter padatan terlarut total. Hibrida H12, H34 dan H11 memiliki nilai tinggi pada karakter bobot tongkol dan padatan terlarut total. Temuan ini merekomendasikan sejumlah tetua dan kombinasi hibrida potensial sebagai dasar pengembangan varietas unggul jagung manis adaptif dan produktif.

**Kata kunci :** Daya gabung umum, daya gabung khusus, heterosis, jagung manis, setengah dialel

## **ABSTRACT**

*Sweet corn (*Zea mays* L. *Saccharata* Group) is a horticultural commodity with high economic value; however, the productivity and sweetness level of several local varieties remain low. This study aimed to evaluate the genetic potential of nine S5 inbred lines of sweet corn developed by the Faculty of Agriculture, Universitas Gadjah Mada, through a half-diallel crossing design, in order to estimate general combining ability (GCA), specific combining ability (SCA), and heterosis values for agronomic traits and yield quality. The research was conducted from May to December 2023 using a randomized complete block design (RCBD) with three replications. The evaluation results showed that parental lines P1, P3, P9, and P2 exhibited high positive GCA values for ear weight, while P5, P3, P2, and P7 showed high GCA values for total soluble solids. Hybrids H12, H26, H34, H1, and H16 demonstrated superior SCA and heterosis for ear weight, whereas H34, H3, H16, H36, and H13 were superior in total soluble solids. Hybrids H12, H34, and H11 had high values for both ear weight and total soluble solids. These findings suggest several promising parental lines and hybrid combinations as a foundation for developing high-yielding and adaptive sweet corn varieties.*

**Keywords :** *General Combining Ability, Specific Combining Ability, Heterosis, Sweet Corn, Half-Diallel*