

## **Karakterisasi Sifat Morfologi, Komponen Hasil, dan Hasil Jagung Putih F2 Famili Saudara Tiri**

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### **INTISARI**

Jagung adalah tanaman berumah satu, dan tergolong tanaman C4 sehingga mampu beradaptasi baik terhadap faktor-faktor pembatas pertumbuhan dan hasil. Jagung putih merupakan varian jagung yang tidak memiliki pigmen warna karoten, namun mengandung zat gizi lain seperti karbohidrat, protein, lemak, dan serat, serta vitamin B1, Fe, Zn, serta asam folat, sehingga jagung putih merupakan salah satu bahan pangan alternative pengganti nasi beras padi. Produktivitas varietas jagung putih yang telah dilepas di Indonesia masih tergolong rendah. Pemuliaan merupakan cara peningkatan produktivitas tanaman melalui perbaikan genotype. Keragaman genetic suatu populasi merupakan hal penting dalam pemuliaan tanaman. Populasi generasi F2 saudara tiri diduga memiliki keragaman dalam karakter sifatnya. Karakterisasi morfologi, komponen hasil, dan hasil populasi generasi F2 saudara tiri jagung putih local asal Munggu, Kebumen diamati dalam penelitian ini. Famili saudara tiri dibuat dengan rancangan persilangan North Carolina Desgn I. Biji-biji generasi F2 dari empat family saudara tiri ditanam dalam Rancangan Acak Kelompok Lengkap 3 ulangan, yang dilaksanakan di KebunPercobaan UMBY di Gunungbulu, Argomulyo, Sedayu, Bantul, DIY dengan ketinggian tempat 87,50 m dpl dengan tekstur lahan lempungan. Data pengamatan variable dianalisis dengan analisis varians  $\alpha=5\%$  dan uji lanjut DMRT pada sumber variasi yang berbeda nyata. Hasil penelitian menunjukkan bahwa karakter morfologi , yakni tinggi tanaman 5 mst (cm), tinggi letak tongkol (cm), diameter batang (mm), hari pembungaan jantan (hst), jumlah daun, panjang dan lebar daun, luas/ daun (cm<sup>2</sup>), volume akar (ml), bobot segar dan bobot kering tanaman tidak berbeda antar keempat family F2 jagung putih local Munggu Kebumen. Demikian pula, karakter jumlah baris biji / tongkol, diameter tongkol, panjang tongkol, bobot biji/tongkol, bobot 100 biji, dan hasil biji/ha tidak berbeda antar keempat family F2. Empat family F2 jagung putih local Munggu-Kebumen dalam penelitian ini memiliki rerata tinggi tanaman 151,1 cm, hari pembungaan jantan 43,75 hst , panjang tongkol berkelobot 13,30 cm, diameter tongkol berkelobot 44,33 mm, bobot 100 biji 20,83 gram , dan hasil biji 3,63 ton/ha .

Kata kunci : karaterisasi sifat , populasi F2 famili saudara tiri , jagung putih local

***Characterization of Morphological Traits, Yield Components, and Yield of White Corn F2 Half-sib***

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***ABSTRACT***

Corn is a monoecious plant, and is classified as a C4 plant so it is able to adapt well to the limiting factors of growth and yield. White corn is a variant of corn that does not have a carotene color pigment, but contains other nutrients such as carbohydrates, proteins, fats, and fibers, as well as vitamin B1, Fe, Zn, and folic acid, so that white corn is one of the alternative foodstuffs other than rice. Productivity of white corn varieties that have been released in Indonesia is still relatively low. Breeding is a way of increasing crop productivity through genotype improvement. The diversity of genetic populations is important in crop breeding. F2 generation population of half-sib family is assumed to have diversity in character of its properties. Characterization of morphology, yield component, and yield of the F2 population of half-sib family of local white corn from Munggu, Kebumen was observed in this study. The half-sib family were made with a North Carolina Design I mating design. The seeds of F2 generation of four half-sib families were planted in the 3-replication of Randomized Complete Block Design, held in the UMBY Experiment Station in Gunungbulu, Argomulyo, Sedayu, Bantul, DIY with 87.50 m altitude and the clay land texture. Data is analyzed by analysis of variance  $\alpha = 5\%$  and followed with DMRT on significantly different sources of variation. The results showed that the morphological character, namely the plant height 5 mst (cm), the height of the cob (cm), the diameter of the trunk (mm), the flowering day of males (HST), the number of leaves, the length and width of the leaves, area/leaf (cm<sup>2</sup>), the volume of roots (ml), fresh weights and dried plants are not different among the four families F2 white corn local Munggu Kebumen. Similarly, the character of the row number of seeds/cob, diameter cob, length of cob, seed weight/cob, weights 100 seeds, and seed/ha results are not different among the four families F2. Four families of F2 white corn local Munggu-Kebumen in this study had an average plant height of 151.1 cm, the days of male flowering were 43.75 days after planting, the average of ear length were 13.30 cm, ear diameter were 44.33 mm, weight of 100 seeds were 20.83 grams, and grain yield were 3.63 tons/ha.

*Keywords: morphological characteristics, F2 population of half-sib family, local white corn*