

KERAGAMAN MORFOLOGIS DAN STABILITAS HASIL BEBERAPA GENOTIP TANAMAN SORGUM (*Sorghum bicolor* (L.) Moench) DI GUNUNGKIDUL DIY

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INTISARI

Sorgum (*Sorghum bicolor* (L.) Moench) merupakan tanaman pangan yang dapat hidup pada daerah yang relatif kering. Sorgum dapat digunakan sebagai alternatif pangan, pakan, dan bioenergi (bioetanol), yang mampu beradaptasi pada lahan marginal dan membutuhkan air relatif lebih. Oleh karena itu, penelitian ini dilakukan dengan tujuan untuk mengetahui keragaman karakter morfologi, kimia/mutu, dan stabilitas hasil genotip tanaman sorgum (lokal maupun varietas unggul baru) di Gunungkidul. Metode penelitian menggunakan rancangan acak kelompok lengkap, dengan ulangan 5 kali. Analisis data morfologis untuk mengetahui hubungan kekerabatan menggunakan analisis kluster UPGMA (*Unweighted Pair group Method with Arithmetic Average*) dengan perangkat MVSP versi 3.1. Adapun stabilitas genotip uji dianalisis sesuai metode Eberhart-Russel dengan menggunakan perangkat online Plant Breeding-STAT. Hasil penelitian menunjukkan terdapat variasi keragaman morfologis *S. bicolor* pada semua karakter morfologis yang diamati yang terutama pada karakter bentuk malai, warna biji dan struktur buluh. Dendrogram membentuk kluster A (*S. bicolor* varietas lokal) dan Kluster B (*S. bicolor* varietas unggul baru). Hasil uji lab menunjukkan bahwa kadar proksimat antar genotip, antar musim tanam berbeda. Hasil analisis stabilitas hasil Eberhart-Russel menunjukkan 2 (dua) genotip yaitu varietas lokal hitam wareng dan varietas unggul Bioguma yang memiliki koefisien regresi β_i mendekati 1.

Kata kunci : sorgum , morfologis, hasil, stabilitas, musim, genotip.

MORPHOLOGICAL DIVERSITY AND YIELD STABILITY OF SORGHUM (*Sorghum bicolor* (L.) Moench) IN GUNUNGKIDUL DIY

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ABSTRACT

Sorghum (*Sorghum bicolor* (L.) Moench) is a food crop that can live in relatively dry areas. Sorghum can be used as an alternative to food, feed, and bioenergy (bioethanol), which can adapt to marginal land and require relatively more water. Therefore, this research was conducted with the aim of knowing the diversity of morphological, chemical, and quality characteristics and yield stability of sorghum genotypes (local and new superior varieties) in Gunungkidul. The research method used a complete group randomized design with 5 replications. Morphological data analysis to determine kinship relationships used UPGMA cluster analysis (Unweighted Pair Group Method with Arithmetic Average) with MVSP version 3.1. The stability of the test genotypes was analyzed according to the Eberhart-Russel method using the Plant Breeding-STAT online tool. The results showed that there were variations in the morphological diversity of *S. bicolor* on all morphological characters observed, especially on the characters of panicle shape, seed color, and reed structure. Dendrogram formed cluster A (*S. bicolor* local varieties) and cluster B (*S. bicolor* new superior varieties). Lab test results show that proximate levels between genotypes and between growing seasons are different. The results of the Eberhart-Russel yield stability analysis showed two genotypes, namely the local variety black wereg and the superior variety Bioguma, which had a regression coefficient β_i close to 1.

Keywords: sorghum, morphological, yield, stability, season, genotypes.