

EVALUASI PERTUMBUHAN, HASIL PANEN, DAN FISIOMORFOLOGI BEBERAPA GALUR PADI GENERASI 7 HASIL PERSILANGAN PADI HITAM LOKAL CEMPO IRENG DENGAN INPARI 6

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INTISARI

Padi berperan penting dalam ketahanan pangan nasional, sedangkan beras hitam semakin diminati sebagai pangan fungsional karena kandungan senyawa bioaktifnya. Penelitian ini bertujuan mengevaluasi galur hasil persilangan generasi ke-7 padi varietas lokal Cempo Ireng dan varietas unggul Inpari 6 melalui pengamatan parameter pertumbuhan, komponen hasil, kadar klorofil, karotenoid, laju transpirasi, dan konduktansi stomata di lahan sawah Dusun Karang, Sleman serta Laboratorium Fisiologi Tumbuhan Fakultas Biologi UGM, dengan analisis ANOVA, DMRT, dan deskriptif. Hasil menunjukkan galur F7 masih memiliki variasi morfologi, fisiologis, dan hasil panen yang cukup luas. CP4 unggul dalam ketahanan rebah dan lebar daun bendera, seluruh galur dipanen pada 138 HSS dengan produktivitas tertinggi dicapai CP1 sebesar 8.571 kg/ha, seluruh galur mempertahankan warna beras hitam dengan warna gabah seragam kuning jerami, CP5 tertinggi dalam kadar klorofil dan karotenoid di antara galur persilangan, serta CP3 dan CP4 tertinggi dalam konduktansi stomata dan laju transpirasi. Analisis kluster mengelompokkan genotipe menjadi tiga kelompok dengan CP1 sebagai kelompok tersendiri yang paling berbeda namun paling produktif, menandakan masih terjadinya segregasi karakter pada generasi lanjut.

KATA KUNCI: Cempo Ireng, fisiomorfologi, galur padi, Inpari 6

**EVALUATION OF GROWTH, YIELD, AND
PHYSIOMORPHOLOGICAL CHARACTERISTICS OF
SEVERAL F7 RICE LINES DERIVED FROM CROSSES
BETWEEN LOCAL BLACK RICE CEMPO IRENG AND THE
IMPROVED VARIETY INPARI 6**

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ABSTRACT

Rice plays a crucial role in national food security, while black rice is increasingly in demand as a functional food due to its bioactive compound content. This study aimed to evaluate the seventh-generation (F7) lines derived from crosses between the local variety Cempo Ireng and the superior variety Inpari 6 by observing growth parameters, yield components, chlorophyll content, carotenoid content, transpiration rate, and stomatal conductance, conducted at the paddy fields of Dusun Karang, Sleman, and the Plant Physiology Laboratory, Faculty of Biology, Universitas Gadjah Mada, using ANOVA, DMRT, and descriptive analyses. The results indicated that the F7 lines still exhibited considerable variation in morphology, physiology, and yield. CP4 excelled in lodging resistance and flag leaf width; all lines were harvested at 138 days after sowing (DAS), with CP1 achieving the highest productivity at 8,571 kg/ha; all lines retained black grain color with uniformly straw-yellow husk color; CP5 recorded the highest chlorophyll and carotenoid content among the crossing lines; and CP3 and CP4 showed the highest stomatal conductance and transpiration rate. Cluster analysis grouped the genotypes into three clusters, with CP1 forming a distinct cluster as the most divergent yet most productive line, indicating that character segregation is still occurring in advanced generations.

KEYWORDS: Cempo Ireng, physiomorphology, rice lines, Inpari 6,