

SUMMARY

SITI FATIMATURROHMAH. 105040200111164. Advance Yield Trials Some Genotype of Rice Hybrid (*Oryza Sativa*.L) at Medium Land. Under guidance Dr. Ir. Damanhuri, Ms. as the first supervisor, Dr. Ir. Andy Soegianto, CESA as second supervisor and Dr. Indrastuti A. Rumanti as third supervisor.

Hybrid rice cultivation is the use of technologies that can be considered safely environment. Based on a survey conducted in Malang and Blitar, revealed that farmers have proven the superiority of hybrid rice which can achieve 9.0 tons ha⁻¹. However, in some specific areas did not show significant results. This is a challenge of hybrid rice breeding program in order to obtain hybrid varieties with higher yield potential through the expression of heterosis stable and widely adaptable. Thus some lines of hybrid rice before being released should be tested of yield and level heterosis in some environments. The objective of this research was to determine the performance of hybrid rice genotypes agronomic characters and get a hybrid rice genotypes for high yield compared with Ciherang and Hipa 8 varieties. The hypothesis submitted there are hybrid rice genotypes for high yield compared with check varieties

The research was conducted from January - April 2014 at the village of Sekarpuro Pakis subdistrict, Malang, East Java. The location is situated at an altitude of ± 450 m above sea level. The material used in this study consisted of 18 genotypes of hybrid rice BBPADI (G1, G2, G3, G4, G5, G6, G7, G8, G9, G10, G11, G12, G13, G14, G15, G16, G17, G18) and two varieties (Ciherang and Hipa 8), urea (45% N), Phonska (15% N: 15% P₂O₅: 15% K₂O), and fertilizer KCl (60% K₂O). The tools include tractor, hoe, sickle, bag, book observation, a ruler, caliper, threshing instrument, measuring the moisture content of seeds, and the analytical balance. Research was used randomized block design (RBD) consist of 20 rice genotypes as treatments with four replications. Data were collected for quantitative characters include leaf area, diameter of stem, panicle exertion, day to flowering, plant height, number of productive tillers, day to maturity, panicle length, number of spikelets panicle⁻¹, number of filled and unfilled spikelets panicle⁻¹, grain moisture content, spikelet fertility %, weight of 1.000 filled grains, grain yield plot⁻¹, Grain yield ha⁻¹ and difference yield with check varieties (%). The level of diseases, pests and lodging as additional observations. Data were analyzed using analysis variance F test 5%. If the analysis variance showed significant effect followed by HSD test level of 5%.

The results showed an average grain yield ranged from 5.48 to 7.92 ton ha⁻¹ ton ha⁻¹. Whole hybrid rice genotypes were tested belong to the category of moderately age (125-130 day after seedling) and had an average character leaf area larger than the Ciherang except genotype G7. Hybrid rice genotypes tested included in the category number of productive tillers moderate (10-20 tillers). Generally the total number of grains per panicle on the genotypes tested more than Ciherang due to differences in panicle length. Based on morphological characters of hybrid rice

genotypes tested supports the acquisition of high rice yield. But most of the genotypes are not offset by the percentage of filled grain so it is not comparable with the results of production. Percentage of filled spikelet ranged 65.06% to 79.90%, which means percentage of unfilled spikelet high enough. Lower percentage of filled grain filling allegedly the influence of bacterial leaf blight disease when flowering phase which causes grain filling to be imperfect so that the grain is not fully loaded or even empty.

Appearance agronomic characters of hybrid rice genotypes tested showed a significant difference between genotypes except in 1000 grain weight. There are four genotypes G1, G2, G6 and G12 which has the yield superiority toward the check varieties. Advantage yield of hybrid rice genotypes is supported by good performance on characters leaf area, number of productive tillers, panicle length and number of spikelets. The four genotypes have the potential to be developed as superiority hybrid so it deserve to do further trials at multilocation.

