

Seleksi Toleransi Cekaman Kekeringan beberapa Galur Mutan Padi (*Oryza sativa* L.) Gajah Mungkur, *The Selection of Drought Stress Tolerance on Rice Lines for Mutant Rice (Oryza sativa L.) Gajah Mungkur.* Advisor : Dwi Rahmawati and Dr. Azri Kusuma Dewi

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ABSTRACT

One of efforts to obtain drought tolerant varieties is through drought stress selection of several mutant lines. This research aimed to determine quantitative character and tolerance level of the gajah mungkur mutant lines. This research was conducted from August 2019 to February 2020 at Rumah Kaca Kebun Percobaan Pusat Aplikasi Isotop dan Radiasi Jl. Lebak Bulus Raya No.49 RT.5 / RW.2, Lb. Bulus, Cilandak Sub-district, South Jakarta City. This research used a Divided Plot Design with the method of Randomized Block Design calculation with 2 factors and 3 replications. The first factor was giving drought stress with 3 levels; C1: without drought stress, C2: drought stress was given for 4 days then irrigated or 4 days once irrigation was done, C3: drought stress was given for 8 days then watered or 8 days once irrigation was done. The second factor, genotypes were selected with 6 levels; G1: PMG 07 / PsJ, G2: PMG 08 / PsJ, G3: PMG 09 / PsJ, G4: parent Gajah Mungkur , G5: Limboto drought tolerant check varieties, G6: drought susceptible check varieties IR 20. With the research parameters of vegetative plant height (cm), number of tillers, flowering age, harvesting age, generative plant height (cm), panicle length (cm), number of productive tillers, number of grain per panicle, number of pithy grains per panicle, number of empty grains per panicle, leaf rolling index, leaf dryness index. The data was analyzed using by F test (ANOVA) and continued with the calculation of Duncan's Multiple Range Test (DMRT). The results obtained showed that the quantitative character had a very significant effect on parameters of the tillers number and the flowering age, had a significant effect on the parameters of the number of grains per panicle, the number of pithy grains per panicle, and the number of empty grain per panicle. And the tolerance level to drought stress in treatment C2 was classified as tolerant, and classified as sensitive in treatment C3.

Keywords: drought stress, genotype, mutant lines