Pengujian Nomor-nomor Harapan Padi Tahan AL dan pH Rendah Hasil Seleksi i Vitro dengan Kultur Hara

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Abstrak

Testing of New Rice Clones Derived from In Vitro Selec- tion for Tolerance to Al and Low pH by using Solution Culture. Ragapadmi Purnamaningsih and Ika Mariska. Rice productivity in acid soil is very low because of low pH, low availability of N, P, K, Ca, Mg, Mo, toxicity of Al and Mn. Development of Al tolerant varieties could increase rice productivity in acid soil. Somaclonal variation and in vitro selection method can be used to develop new Al tolerance varieties. A rapid screening method is needed to select a large number of new genotypes or new inbred lines in plant breeding, such as solution culture methods to evalu-ate Al- tolerant rice. This methods was used to know the response to Al in the seedling stage, root development, and pH changing. In this experiment solution culture method was used to evaluate the new genotypes derived from soma- clonal variation and in vitro selection methods. These new genotypes have been tested the tolerance characteristic by using AlCl36H2O at 6 concentrations (0, 100, 200, 300, 400, and 500 ppm). Yoshida solution with two Al concentration were used to tested these genotypes. Measurement of Al tolerance was based on root development by using Relative Root Length (RRL), the relativity of root length at 45 ppm and 0 ppm. Almost all of the genotypes have RRLs higher than 0.7, which means that there was a positive correlation between the in vitro method and solution culture method. In this experiment pH changes were not applicable to measure the tolerance of the rice genotypes to Al and low pH