

The Effectiveness of Solution Types and Soaking Time on Breaking Dormancy of Rice Seeds (*Oryza sativa* L.) Inpari 32. Supervised by Leli Kurniasari, SP. M.Si. and Sri Ekawati, SP.

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ABSTRACT

Rice seeds have dormancy characteristics called after ripening, where rice seeds are not able to germinate when they are freshly harvested and cause low seed quality, special treatment is needed to break the dormancy. This study aims to determine the type of solution and the best soaking time to break the dormancy period of Inpari 32 rice seeds for early seed germination. This research was conducted at the UPT Laboratory. PSBTPH Jember in March-April 2021. The experimental design used is Complete Random Design (RAL) factorial with two factors, the first factor is the type of solution consists of a solution of distilled water (L0), a solution of KNO_3 3%(L1), coconut water solution young (L2). The second factor is the duration of immersion for 24 hours (W1), 36 hours (W2), and 48 hours (W3) then oven at 40°C for 3 hours, each of the two factors consists of 3 levels repeated 4 times. Data were analyzed using F test (ANOVA) and follow-up test (BNT 5%). The results showed that the type of KNO_3 3% (L1) resulted in a very significant difference in the germination parameters (93.42%), growth simultaneously (88.25%), maximum growth potential (95.00%). The results showed that solution of KNO_3 3% effectively improve germination by 93.42%, 88.25% simultaneity growth and maximum growth potential of 95.00%. Treatment of young coconut water solution of 40% was effective in increasing the growth speed of 17.12%, the control treatment was effective in increasing the intensity of dormancy by 13.42%. The treatment of immersion time factor for 48 hours was effective in increasing germination by 87.17%, simultaneously growing 83.03%, the treatment of immersion for 36 hours was effective in increasing the growth speed of 16.25%. The interaction of the type of solution and soaking time for 36 hours and then the seeds were incubated using an oven at 40°C for 3 hours effectively increased the growth speed by 18.07%.

Keywords : *Breaking Dormancy, Rice Seed, Soaking Time, Solution Type*