

ISNAINI LAILI HIDAYAH. Rice Dormancy Breaker (*Oryza sativa* L) On The Variety of Temperature, Water Soaking and KNO₃. Supervised by H. SUMARWOTO PS and NURNGAINI

ABSTRACT

Rice is the main food for Indonesian people. To fulfill the need of it, the quality of the rice seed has become the main concern. Until now in Indonesian only 25 % of the rice seed is certificated, it's far from the total need of the certificated rice seed. There are some problems in producing the certificated rice seed, one of the problem is the seed dormansi. Primary dormancy types of physical and physiological factors that affect rice. To make the seed grow quickly the dormant barrier is need to be vanished. To break the dormansi is buy using water or hot water soaking.

The purpose of this research is to get the best and easy way to break the seed dormansi and to determine the rice seed dormancy breaking time. This research was held from September 2014 until November 2014 at the seed technology Laboratory of Agriculture technology program Faculty of Agriculture UPN University Yogyakarta and at Bendosari, Sumpalsari, Moyudan, Sleman, Yogyakarta. This research is using RAL (Comprehensive Random Program), one factor with 9 treatments. The result is analyzed with 5 % range variety investigation, if there are differences between the treatments the test will be continue with the DMRT (Duncan Multiple Range Test) with 5 % range. The treatment is by soaking and heating, it's soaking with 40°C, 50°C, 60°C at the first temperature (for 2 hours), oven 40°C temperature for 48 hour, soaking with KNO₃ 3% for 48 hour and soaking with 40°C, 50°C, 60°C at the first temperature (for 2 hours), it's continued with the room temperature for 48 hour. The results shows that the best way to break the rice seed dormansi is by using KNO₃ 3 % soaking, it can be seen from the sorouting capacity, the level of the seed growth, the seed spouting potential, vigor index, electric conductivity, and the growth of the seed is better than others. The seed which get dryness treatment is germinated faster than the others. At the 3th week the sprouts is already fulfill the seeding standard.

Word Key : Dormansi breaker, Rice, Hot water, Water, KNO₃