ABSTRACT

Yoni Andari. A.1710872. Study of Persistence and Breaking Dormancy of Sintanur's Rice Seed (*Oryza sativa* L.) Cultivar. Under immediate supervision of Setyono dan Aldi Kamal Wijaya.

The aim of this research was to study dormancy persistence and methods of breaking seed dormancy of Sintanur's rice seed (*Oryza sativa* L.) cultivar. The research was carried out from August to December 2019 at the Seed Laboratory of IPB Bogor's Vocational School. It used two lots of rice seeds of the Sintanur's cultivar, the new lot and the old lot. This experiment used a split-plot randomized complete block design. The first factor as the main plot was the treatment of breaking dormancy (without treatment, hydration 24 hours, hydration 48 hours, KNO_3 3% 24 hours, KNO_3 3% 48 hours, GA3 10 ppm 24 hours, GA_3 10 ppm 48 hours) and the second factor as a subplot was the storage period (0 week after harvest, 1 week after harvest, 2 weeks after harvest, 3 weeks after harvest, 4 weeks after harvest). The results showed that Sintanur's rice seed had dormancy properties with dormancy persistence for 3 weeks. The interaction between the treatment of breaking dormancy and seed storage period significantly affected the variables of germination, maximum growth potential and dry weight of normal germination of Sintanur's rice seed cultivar. Based on germination variable GA_3 10 ppm treatment for 48 hours was effective in breaking the dormancy of the Sintanur's rice seed cultivar since the storage period for 1 week after harvest.

Keywords: *after ripening, GA3, hydration, KNO_3, viability, vigor*

ABSTRAK

Yoni Andari. A.1710872. Studi Persistensi dan Pematahan Dormansi Benih Padi (*Oryza sativa* L.) Varietas Sintanur. Di bawah bimbingan Setyono dan Aldi Kamal Wijaya.

Penelitian ini bertujuan mempelajari persistensi dormansi dan metode pematahan dormansi benih padi varietas Sintanur. Penelitian dilaksanakan pada bulan Agustus sampai dengan bulan Desember tahun 2019 di Laboratorium Benih Sekolah Vokasi IPB Bogor. Penelitian ini menggunakan dua lot benih padi varietas Sintanur yaitu lot baru dan lot lama. Percobaan ini menggunakan rancangan acak kelompok petak terbagi. Faktor pertama sebagai petak utama adalah perlakuan pematahan dormansi (tanpa perlakuan, hidrasi 24 jam, hidrasi 48 jam, KNO_3 3% 24 jam, KNO_3 3% 48 jam, GA_3 10 ppm 24 jam, GA_3 10 ppm 48 jam) dan faktor kedua sebagai anak petak yaitu periode simpan (0 minggu setelah panen, 1 minggu setelah panen, 2 minggu setelah panen, 3 minggu setelah panen, 4 minggu setelah panen). Hasil penelitian menunjukkan bahwa benih padi varietas Sintanur memiliki sifat dormansi dengan persistensi dormansi selama 3 minggu. Interaksi antara perlakuan pematahan dan periode simpan berpengaruh terhadap peubah daya berkecambah, potensi tumbuh maksimal, dan bobot kering kecambah normal. Berdasarkan peubah daya berkecambah, perlakuan GA_3 10 ppm selama 48 jam efektif mematahkan dormansi benih padi varietas Sintanur sejak periode simpan 1 minggu setelah panen.

Kata kunci : *after ripening, GA_3, hidrasi, KNO_3, viabilitas, vigor*