



INTISARI

Padi (*Oryza sativa* L.) merupakan komoditas utama penghasil beras yang sangat penting bagi swasembada pangan suatu negara, terutama di Asia khususnya Indonesia. Namun, produksi beras nasional mengalami kecenderungan penurunan akibat dampak perubahan iklim, seperti suhu tinggi, kekeringan, dan serangan hama. Salah satu strategi adaptasi yang dapat dilakukan adalah pengembangan varietas umur genjah melalui metode percepatan pembentukan generasi lanjut (PPGL)-*Rapid Generation Advance* (RGA). Penelitian ini bertujuan untuk mengetahui perbedaan waktu berbunga dan menentukan populasi yang memiliki waktu berbunga lebih cepat pada kerapatan tinggi serta mengenali perubahan komponen hasil akibat penanaman rapat. Penelitian dilaksanakan di lahan sawah Jetak I, Sidokarto, Godean, Sleman. Sebanyak 3.600 benih disemai pada jarak rapat dan sebagian dipindah tanam pada jarak renggang (25 x 25 cm). Data morfologi kemudian dianalisis menggunakan analisis uji-t dan kompone utama (*Principal Component Analysis*) dengan RStudio. Hasil penelitian menunjukkan bahwa tanam rapat mempercepat umur berbunga, tetapi menurunkan sebagian besar komponen pertumbuhan dan hasil, kecuali bobot 1000 bulir dan panjang gabah yang relatif stabil. Hasil PCA menunjukkan karakter yang memiliki peran besar terhadap keragaman yaitu bobot bulir per rumpun, umur berbunga, umur panen, tinggi tanaman, dan jumlah anakan produktif. Penelitian ini menunjukkan bahwa metode PPGL lapangan efektif untuk menapis genotipe padi dengan umur berbunga lebih awal dalam waktu singkat.

Kata kunci: padi, RGA, umur berbunga



ABSTRACT

Rice (*Oryza sativa* L.) is a major commodity for rice production, which is very important for food security, especially in Asia specifically Indonesia. However, national rice production in Indonesia has shown a declining trend due to the impacts of climate change, such as high temperatures, drought, and pest outbreaks. One adaptation strategy that can be implemented is the development of early-maturing varieties through the Rapid Generation Advance (RGA) method. This study aims to identify differences in flowering time and determine populations that have faster flowering times at high densities, as well as to recognize changes in yield components due to dense planting. The research was conducted in the Jetak I rice field, Sidokarto, Godean, Sleman. A total of 3,600 seeds were sown at a dense spacing, and some were transplanted at a wider spacing (25 x 25 cm). Morphological characteristic data were then analyzed using t-test and Principal Component Analysis with RStudio. The results showed that dense planting accelerated flowering time but reduced most growth and yield components, except for the 1000-grain weight and grain length, which remained relatively stable. The PCA indicated that traits contributing significantly to variation included grain weight per cluster, flowering time, harvest time, plant height, and the number of productive tillers. This study demonstrates that modified RGA method especially field-RGA is effective for selecting rice genotypes with earlier flowering in a short period.

Keywords: rice, RGA, flowering time