

RINGKASAN

Perakitan varietas padi guna menghasilkan padi berkarakter basmati telah dilakukan melalui persilangan Inpari 31 dan Delta 9 dilanjutkan dengan seleksi. Penelitian ini bertujuan untuk 1) mengukur kemajuan seleksi karakter agronomik padi populasi F₃, 2) mengetahui karakter yang paling berpengaruh terhadap hasil yang dapat digunakan sebagai indikator seleksi menggunakan korelasi dan analisis jalur. Penelitian dilaksanakan pada bulan Desember 2019 sampai Mei 2020. Rancangan percobaan yang digunakan adalah Rancangan Acak Kelompok dengan rancangan perlakuan *Augmented Design*. Perlakuan yang diuji adalah 1200 individu F₃ dari 16 galur terseleksi keturunan persilangan Inpari 31xDelta 9 dan 3 varietas cek (Inpari 31, Delta 9 dan Inpago Unsoed 1). Variabel yang diamati antara lain tinggi tanaman, jumlah anakan produktif, umur tanaman berbunga, umur panen, panjang malai, jumlah gabah per malai, bobot gabah per malai, bobot gabah per rumpun, dan bobot 100 biji. Data pengamatan dianalisis nilai duga heritabilitas, harapan kemajuan genetik, kemajuan genetik, kemajuan seleksi dan korelasi antar karakter. Hasil penelitian menunjukkan nilai duga heritabilitas tinggi pada tinggi tanaman, umur berbunga, umur panen, panjang malai, bobot gabah per malai, dan bobot gabah per rumpun, sedangkan jumlah anakan produktif dan bobot 100 biji menunjukkan sedang, nilai duga heritabilitas rendah terdapat pada karakter jumlah gabah per malai. Nilai kemajuan genetik sedang sampai tinggi sedangkan nilai kemajuan seleksi bernilai negatif, kecuali pada bobot gabah per rumpun. Jumlah anakan produktif, bobot gabah per malai, dan jumlah gabah per malai memiliki hubungan yang erat dan pengaruh langsung yang tinggi terhadap bobot gabah per rumpun, sehingga dapat digunakan sebagai indikator seleksi untuk daya hasil tinggi pada generasi selanjutnya.

Kata Kunci: Inpari 31, Delta 9, Basmati, Kemajuan seleksi, Korelasi

SUMMARY

Breeding of rice varieties with basmati character has been carried out by crossing Inpari 31 and Delta 9 followed by selection. This study aims to 1) measure the progress of the selection of agronomic characters for rice in the F₃ population, 2) to determine which characters have the most influence on the results that can be used as indicators of selection using correlation and path analysis. The research was conducted from December 2019 to Mey 2020. A randomized block design with Augmented was applied. The treatments were 1200 F₃ individuals from 16 selected lines from progeny of Inpari 31xDelta 9 crossing and 3 check varieties (Inpari 31, Delta 9 and Inpago Unsoed 1). The variables observed were plant height, number of productive tillers, flowering dates, harvesting age, length of panicle, number of grains per panicle, grain weight per panicle, grain weight per hill, and weight of 100 seeds. The data were analyzed for the predicted value of heritability, expected genetic progress, genetic progress, selection progress and correlation between characters. The results showed high heritability prediction values on the of plant height, flowering age, harvesting age, panicle length, grain weight per panicle, and grain weight per hill, while number of productive tillers and weight of 100 seeds showed moderate, the estimated value of low heritability was found in number of grain per panicle. The grade of genetic progress is moderate to high, while the value of selection progress is negative, except for grain weight per hill. The number of productive tillers, grain weight per panicle, and number of grain per panicle have a close relationship and have a high direct effect on grain weight per hill, so they can be used as selection indicators for high yielding power in the next generation.

Keywords: Inpari 31, Delta 9, Basmati, Selection progress, Correlation

