

## RINGKASAN

Perakitan varietas padi guna menghasilkan padi keturunan Inpari 31 dengan menambahkan beberapa karakter unggul Koshihikari telah dilakukan melalui persilangan Inpari 31 dan Koshihikari 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 dari Bulan Oktober 2021 sampai Januari 2022. Rancangan percobaan yang digunakan adalah Rancangan Acak Kelompok dengan rancangan perlakuan *Augmented Design*. Perlakuan yang diuji adalah 134 individu F3 dari 9 galur terseleksi keturunan persilangan Inpari 31 x Koshihikari dan resiprokalnya serta 2 varietas cek (Inpari 31 dan Koshihikari). Variabel yang diamati antara lain tinggi tanaman, jumlah anakan produktif, jumlah anakan total, umur tanaman berbunga, umur panen, panjang malai, jumlah gabah isi per malai, jumlah gabah total per malai, bobot 100 biji, persentase gabah isi, bobot gabah per malai, panjang beras, lebar beras, rasio panjang:lebar beras, dan bobot gabah per rumpun. Data pengamatan dianalisis nilai duga heritabilitas, harapan kemajuan genetik, kemajuan genetik, dan korelasi antar karakter. Hasil penelitian menunjukkan nilai duga heritabilitas tinggi pada tinggi tanaman, jumlah anakan produktif, jumlah anakan total, umur berbunga, umur panen, jumlah gabah isi per malai, jumlah gabah total per malai, persentase gabah isi, panjang beras, lebar beras, rasio panjang:lebar beras dan bobot gabah per rumpun, sedangkan panjang malai dan bobot gabah per malai menunjukkan sedang, nilai duga heritabilitas rendah terdapat pada karakter bobot 100 biji. Nilai kemajuan genetik rendah terdapat karakter umur berbunga, umur panen, panjang malai, dan bobot 100 biji, nilai kemajuan genetik sedang terdapat pada karakter jumlah gabah total per malai dan bobot gabah per malai, panjang beras, lebar beras, dan rasio panjang:lebar beras, nilai kemajuan genetik yang tinggi terdapat pada karakter tinggi tanaman, jumlah anakan produktif jumlah anakan total per malai, jumlah gabah isi per malai, persentase gabah isi, dan bobot gabah per rumpun. Jumlah anakan produktif dan bobot 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, Koshihikari, Kemajuan genetik, Korelasi, Heritabilitas*

## SUMMARY

*Breeding of rice varieties to produce Inpari 31 offspring by adding some superior characters from Koshihikari had been done through the crossbreeding of Inpari 31 and Koshihikari followed by selection. This study aimed to 1) measure the progress of agronomic character selection in the F3 population, 2) determine the most influential character on the yield that can be used as a selection indicator using correlation and path analysis. The study was conducted from October 2021 to January 2022. The experimental design used was a Randomized Block Design with an Augmented Design treatment design. The treatments tested were 134 F3 individual plants from 16 selected lines of the crossbreeding of Inpari 31 x Koshihikari and its reciprocal, and 2 check varieties (Inpari 31 and Koshihikari). The observed variables included plant height, productive tillers, total tillers, flowering age, harvesting age, panicle length, grain yield per panicle, total grain yield per panicle, 100 grain weight, filled grain percentage, grain weight per panicle, grain length, grain width, length-to-width ratio, and grain weight per hill. Data were analyzed for estimated heritability, genetic expectation, genetic progress, and correlation among characters. Results showed that high estimated heritability values for plant height, productive tillers, total tillers, flowering age, harvest age, grain yield per panicle, total grain yield per panicle, filled grain percentage, grain length, grain width, length-to-width ratio, and grain weight per hill, while panicle length and grain weight per panicle showed moderate heritability values. Low estimated heritability values were found in the 100 grain weight character. Low genetic progress was found in the flowering age, harvest age, panicle length, and 100 grain weight characters, moderate genetic progress was found in the total grain yield per panicle and grain weight per panicle characters, and high genetic progress was found in the plant height, productive tillers, total tillers per panicle, grain yield per panicle, grain filling percentage, and grain weight per hill characters. Productive tillers and grain weight per panicle had a strong and direct relationship and high influence on grain weight per hill, so they can be used as selection indicators for high yield in the next generation. Keywords: Inpari 31, Koshihikari, Genetic progress, Correlation, Heritability*