

## INTISARI

Hibrida silang tiga-jalur berguna untuk mengatasi masalah ketidakstabilan hibrida silang tunggal di bawah kondisi lingkungan yang kurang sesuai. Penelitian ini bertujuan untuk mengevaluasi daya hasil dan kualitas buah 13 hibrida tomat hasil silang tiga-jalur. Penelitian menggunakan 24 genotipe yang terdiri dari lima tetua galur (A131/Gamato 1, A134/Gamato 3, A175, B52/Gamato 5, dan Kaliurang), enam tetua hibrida (Fortuna, Kingkong, Lentana, Marta, New Precious, dan Victory), dan 13 hibrida hasil silang tiga-jalur (Fortuna×B52, Kaliurang×A131, Kaliurang×Kingkong, Kingkong×A131, Lentana×A131, Lentana×A134, Lentana×A175, Marta×A131, Marta×A175, NewP×A131, NewP×B52, Victory×A175, dan Victory×B52). Penelitian dilaksanakan di BPPAPH Ngipiksari, Dinas Pertanian Sleman, Yogyakarta dan Laboratorium Genetika dan Pemuliaan Tanaman pada bulan Juli–Desember 2015. Penelitian menggunakan Rancangan Acak Kelompok Lengkap dengan 3 blok sebagai ulangan. Data hasil pengamatan dianalisis menggunakan analisis varian dengan uji lanjutan Uji Jarak Berganda Duncan pada  $\alpha=5\%$ , analisis komponen utama, perhitungan nilai heterosis, dan perhitungan nisbah potensi. Hasil penelitian menunjukkan bahwa hibrida Marta×A131, Kaliurang×Kingkong, dan New P×A131 termasuk ke dalam hibrida-hibrida dengan potensi daya hasil tinggi. Hibrida Victory×B52, Fortuna×B52, New P×B52, Marta×A175, dan Victory×A175 termasuk hibrida dengan potensi daya simpan lama. Hibrida Marta×A131, Lentana×A175, dan Kaliurang×Kingkong merupakan hibrida terpilih berdasarkan keunggulan gabungan karakter-karakter daya hasil dan kualitas buah berdasarkan analisis komponen utama.

**Kata kunci:** tomat, daya hasil, kualitas, hibrida, silang tiga-jalur

### ***ABSTRACT***

Three-ways cross hybrid is used to solve the single cross hybrid instability under inappropriate environmental condition. This research was aimed to evaluate yield performance and fruit quality of 13 three-way cross hybrids of tomato. This experiment used 24 genotypes consisted of five inbred lines (A131/Gamato 1, A134/Gamato 3, A175, B52/Gamato 5, and Kaliurang), six hybrid varieties (Fortuna, Kingkong, Lentana, Marta, New Precious, and Victory), and 13 three-ways cross hybrids (Fortuna×B52, Kaliurang×A131, Kaliurang×Kingkong, Kingkong×A131, Lentana×A131, Lentana×A134, Lentana×A175, Marta×A131, Marta×A175, NewP×A131, NewP×B52, Victory×A175, and Victory×B52). This experiment was carried out in BPPAPH Ngipiksari, Dinas Pertanian Sleman, Yogyakarta and Plant Breeding and Genetics Laboratory had been since July–December 2014. This experiment was arranged in Randomized Complete Block Design with 3 blocks as replication. The results showed that hybrid of Marta×A131, Kaliurang×Kingkong, and NewP×A131 had the highest yield performance. Victory×B52, Fortuna×B52, NewP×B52, Marta×A175, and Victory×A175 hybrids had the longest storage ability potential. Marta×A131, Lentana×A175, and Kaliurang×Kingkong were the best hybrids based on superiority combination of yield and fruit quality characters as result of the principle component analysis.

**Key words:** tomato, yield, quality, hybrids, three-way cross