

## Intisari

Cabai telah banyak dibudidayakan sebagai tanaman sayur dan tanaman hias. Cabai hias (*Capsicum annuum*) 'Cherry Pepper' memiliki bentuk buah bulat dan posisi buah menggantung. Cabai rawit (*C. frutescens*) memiliki bentuk buah memanjang dengan posisi buah tegak. Persilangan antara dua jenis cabai ini diharapkan diperoleh bentuk buah cabai yang bulat dengan posisi buah tegak. Tujuan dari penelitian ini adalah mengetahui ada tidaknya *reciprocal effect* pada populasi F<sub>1</sub>, mengetahui karakter bersegregasi pada populasi F<sub>2</sub> dan dugaan jumlah gen pengendali karakter serta mengetahui nilai heritabilitas karakter yang diamati. Penelitian ini menggunakan bahan tanam dari penelitian sebelumnya yaitu sebanyak 10 tanaman generasi F<sub>1</sub> hasil persilangan 'Cherry pepper' dengan cabai rawit dan 10 tanaman resiproknya, 100 tanaman generasi F<sub>2</sub> hasil persilangan 'Cherry Pepper' dengan cabai rawit dan 80 tanaman resiproknya. Cabai ditanam dengan *single plant* yaitu menanam tanaman di lingkungan yang sama tanpa ulangan. Data kualitatif hasil pengamatan dianalisis dengan *Chi square test* dan data kuantitatif dianalisis untuk pendugaan nilai heritabilitas dalam arti luas, keragaman genetik dan nilai kemajuan genetik harapan. Hasil penelitian menunjukkan bahwa populasi F<sub>1</sub> tidak ada *reciprocal effect*. Karakter-karakter yang bersegregasi pada populasi F<sub>2</sub> adalah karakter pigmentasi antosianin dengan dugaan jumlah gen pengendali lebih dari dua gen, karakter bentuk daun, warna mahkota bunga, warna buah muda dan buah tua yang diduga dikendalikan oleh dua gen pengendali, karakter posisi bunga saat antesis, posisi buah dan bentuk buah diduga dikendalikan oleh satu gen. Seluruh karakter kuantitatif yang diamati memiliki nilai heritabilitas tinggi kecuali karakter lebar daun dan umur berbunga.

Kata kunci : *reciprocal effect*, segregasi, heritabilitas

## **Abstract**

Chilies has been widely cultivated as vegetable crop and ornamental crop. Ornamental chillies ‘Cherry pepper’ (*Capsicum annuum*) has rounded shape fruit and hanging fruit position. Cayenne pepper (*C. frutescens*) has an elongated shape fruit with upright fruit position. A cross between two types of those chili was expected to the rounded fruit shape with the fruit upright position. This research aimed to determine whether reciprocal effect on F<sub>1</sub> population, knowing the segregation in F<sub>2</sub> populations and determine broad sense heritability of characters observed. The research used seed material from previous research that as many as 10 F<sub>1</sub> generation plants crossing result between ‘Cherry pepper’ with Cayenne pepper and 10 reciprocal plants, 100 plants of F<sub>2</sub> generation and 80 reciprocal plants. Chili plants was planted with single crop in the same environment without repetition. The qualitative data were analyzed with *Chi square test* and quantitative data were analyzed using the estimate broad sense heritability. The results showed that there was no reciprocal effect on F<sub>2</sub> population. Several characters were segregated on the F<sub>2</sub> population namely the character of anthocyanin pigmentation which are controlled by more than two genes. Meanwhile the character of leaf shape, flower color, fruit shape, and fruit color of young and old fruit were controlled by two genes. Character positions of fruit, flower position at the anthesis and fruit shape controlled by single gene. All quantitative characters observed have high values of heritability except width of the leaves and flowering age.

**Key words :** reciprocal effect, segregation, broad sense heritability