

## **Evaluasi Karakter Tanaman Cabai Hias (*Capsicum annuum* L.) Generasi F<sub>1</sub> Hasil Persilangan ‘Peter Pepper’ dengan ‘Royal Black’**

**Wili Setiyoko<sup>1</sup>, Aziz Purwantoro<sup>2</sup>, Supriyanta<sup>2</sup>**

Fakultas Pertanian, Universitas Gadjah Mada, Bulaksumur, Yogyakarta

Email: wili.setiyoko@mail.ugm.ac.id

### **INTISARI**

Cabai hias mempunyai beragam warna dan bentuk buah yang mampu memberikan keindahan pada taman, sehingga perlu evaluasi karakter dalam strategi pemuliaan tanaman. Tujuan penelitian ini yaitu mengevaluasi karakter kualitatif dan kuantitatif tanaman cabai hias F<sub>1</sub> hasil persilangan ‘Peter Pepper’ dengan ‘Royal Black’ dan mengetahui tindak gen karakter kuantitatif. Rancangan percobaan yang digunakan yaitu Rancangan Acak Kelompok Lengkap dengan tiga genotipe yaitu ‘Peter Pepper’, ‘Royal Black’, dan F<sub>1</sub> (PP×RB) dengan 3 ulangan. Karakter yang diamati dibedakan menjadi dua yaitu karakter kualitatif dan kuantitatif. Hasil penelitian menunjukkan bahwa karakter kualitatif tanaman cabai hias F<sub>1</sub> yang mengekspresikan sifat dominan tetua betina ‘Peter Pepper’ yaitu karakter warna kotiledon, hipokotil, habitus pertumbuhan tanaman, habitus percabangan, warna daun, bentuk daun, orientasi bunga, orientasi buah, dan bentuk ujung buah. Karakter kualitatif cabai hias F<sub>1</sub> yang mengekspresikan sifat dominan tetua jantan ‘Royal Black’ yaitu warna batang, warna kotak sari, warna tangkai sari, warna buah sebelum masak, dan bentuk buah. Karakter kualitatif cabai hias F<sub>1</sub> yang mengekspresikan sifat kodominan yaitu karakter antosianin pada buku dan warna mahkota bunga. Karakter kuantitatif tanaman cabai hias F<sub>1</sub> yang sama dengan tetua betina ‘Peter Pepper’ yaitu karakter diameter batang dan berat buah. Karakter kuantitatif cabai hias F<sub>1</sub> yang sama dengan tetua jantan ‘Royal Black’ yaitu karakter panjang daun, lebar daun, jumlah buah, dan warna buah fase muda. Karakter kuantitatif cabai hias F<sub>1</sub> yang berbeda dengan kedua tetuanya yaitu karakter tebal daging buah. Cabai hias F<sub>1</sub> yang memiliki tindak gen *incomplete dominance* yaitu karakter diameter batang, lebar daun, diameter buah, bobot buah, tebal daging buah, jumlah buah per tanaman, dan berat biji per buah, sedangkan F<sub>1</sub> yang memiliki tindak gen *over dominance* yaitu karakter tinggi tanaman,<sup>3</sup> tinggi dikotomus, panjang daun, umur mulai berbunga, umur mulai berbuah, panjang buah, panjang tangkai buah, dan warna buah fase muda, fase antara, dan fase tua.

**Kata Kunci :** cabai hias, evaluasi karakter, kualitatif, kuantitatif, tindak gen

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<sup>1</sup> Mahasiswa Program Studi Pemuliaan Tanaman, Fakultas Pertanian UGM

<sup>2</sup> Staf Pengajar Fakultas Pertanian UGM, Jl. Sosiojustisia Bulaksumur Yogyakarta

## **Evaluation of F<sub>1</sub> Ornamental Pepper (*Capsicum annuum* L.) Characters Resulted from Crossing of 'Peter Pepper' with 'Royal Black'**

**Wili Setiyoko<sup>1</sup>, Aziz Purwantoro<sup>2</sup>, Supriyanta<sup>2</sup>**

Faculty of Agriculture, Universitas Gadjah Mada, Bulaksumur, Yogyakarta

Email: [wili.setiyoko@mail.ugm.ac.id](mailto:wili.setiyoko@mail.ugm.ac.id)

### **ABSTRACT**

Ornamental pepper vary in colour and shapes which reflect its beauty as garden's plant. Therefore, it is necessary to evaluate the characters of ornamental pepper for determining its breeding strategies. The purposes of this study were to evaluate the quantitative and qualitative F<sub>1</sub> characters of ornamental pepper resulted from crossing of the 'Peter Pepper' with the 'Royal Black' and also to understand the quantitative characters of gene action in plant. The experimental design used was a randomized complete block design with three replications and three genotypes namely 'Peter Pepper', 'Royal Black', and F<sub>1</sub> (PP×RB). Characters of ornamental pepper were observed as qualitative and quantitative characters. The result showed that the qualitative character of F<sub>1</sub> ornamental pepper which are expressed the dominant trait of female parent 'Peter Pepper' were cotyledon colour, hypocotyl colour, plant growth habit, branching habit, leaf colour, leaf shape, flower orientation, fruit orientation, and the fruit shape at blossom end. F<sub>1</sub> ornamental pepper that expressed the dominant trait of male parent 'Royal Black' were stem colour, anther colour, filament colour, fruit colour at intermediate stage, and fruit shape. F<sub>1</sub> ornamental pepper that expressed the codominant trait were nodal anthocyanin and corolla colour. The quantitative character of F<sub>1</sub> ornamental pepper that had similar to the female parent 'Peter Pepper' were stem diameter and fruit weight. F<sub>1</sub> ornamental pepper that had similar to the male parent 'Royal Black' were leaf length, leaf width, number of fruit, and fruit colour at earlier stage. The differences between F<sub>1</sub> ornamental pepper with two parents was fruit wall thickness. The dominance incomplete genes act F<sub>1</sub> ornamental pepper had were stem diameter, leaf width, fruit width, fruit weight, fruit wall thickness, number of fruit, and seed weight, while F<sub>1</sub> had over dominance genes act such as plant height, dichotomous height, leaf length, days to flowering, days to fruiting, fruit length, fruit pedicel length, and fruit colour at earlier, intermediate, and mature stage.

Key words: ornamental pepper, character evaluation, qualitative, quantitative, gene acts

<sup>1</sup> Mahasiswa Program Studi Pemuliaan Tanaman, Fakultas Pertanian UGM

<sup>2</sup> Staf Pengajar Fakultas Pertanian UGM, Jl. Sosiojustisia Bulaksumur Yogyakarta