

## **PENGARUH SITOKININ TERHADAP PERTUMBUHAN DAN HASIL ROSELA (*Hibiscus sabdariffa* L.)**

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### **INTISARI**

Rosela (*Hibiscus sabdariffa* L.- Malvaceae) merupakan tanaman herbal serta penghasil serat alami yang banyak dibudidayakan dan dimanfaatkan di Indonesia. Potensi pemanfaatan yang cukup besar tidak diiringi dengan produksi rosela yang masih cukup rendah dibandingkan komoditi lainnya. Produksi rosela dengan kualitas dan kuantitas yang baik dapat dipengaruhi oleh faktor eksternal, seperti perlakuan hormon. Tujuan penelitian ini adalah untuk mengevaluasi pengaruh hormon sitokinin terhadap pertumbuhan dan hasil rosela. Penelitian ini dilaksanakan di *Screen House* Stasiun Penelitian Sawit Sari Fakultas Biologi UGM, Yogyakarta, mulai bulan Januari – Juni 2019. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan faktor perlakuan hormon sitokinin (P1 : 0 ppm, P2 : 10 ppm, P3 : 20 ppm, P4 : 30 ppm, dan P5 : 40 ppm). Penelitian diawali dengan penyemaian biji, kemudian semai umur 3 minggu dipindah tanam ke lahan, penyiraman dilakukan secara rutin setiap 3 hari. Aplikasi hormon sitokinin dilakukan pada minggu ke-5 setelah pindah tanam. Parameter yang diamati, yaitu tinggi tanaman, jumlah daun, luas daun, bobot basah daun dan *calyx*, bobot kering daun dan *calyx*, kadar klorofil daun, kadar antosianin dan total fenol *calyx*. Data yang diperoleh dianalisis menggunakan ANOVA (*Analysis of Variance*) yang dilanjutkan dengan uji DMRT (*Duncan Multiple Range Test*). Hasil penelitian menunjukkan aplikasi sitokinin 10 ppm signifikan meningkatkan jumlah daun dan luas daun. Perlakuan sitokinin 30 ppm signifikan meningkatkan tinggi tanaman, bobot basah dan bobot kering *calyx* rosela. Kadar klorofil, kadar antosianin, dan total fenol meningkat seiring dengan peningkatan konsentrasi sitokinin yang digunakan.

**Kata Kunci :** Rosela, *Hibiscus sabdariffa* L., sitokinin, antosianin, fenol

## **EFFECT OF CYTOKININS ON GROWTH AND YIELD OF ROSELLE** **(*Hibiscus sabdariffa* L.)**

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### **ABSTRACT**

Roselle (*Hibiscus sabdariffa* L.-Malvaceae) is a herbal and natural fiber producing plant that is widely cultivated and utilized in Indonesia. The increasing demand of roselle's calyx is not accompanied by roselle production which is still quite low compared to other commodities. Roselle production with good quality and quantity can be affected by external factors, such as hormone treatment. The purpose of this study was to evaluate the effect of the cytokinin on growth and yield of roselle. This research was conducted at the Screen House Sawit Sari Research Station, Faculty of Biology UGM, Yogyakarta, from January to June 2019. The study used a completely randomized design with various concentration of cytokinin namely (P1: 0 ppm, P2: 10 ppm, P3: 20 ppm, P4: 30 ppm, and P5: 40 ppm). The study began with seed germination and then seedlings of 3 weeks old were moved into the fields, plant maintenance was done regularly. Application of cytokinin was carried out at 5th week after plants were grown in the field. Parameters observed were plant height, number of leaves, leaf area, fresh weight of leaf and calyx, dry weight of leaf and calyx, leaf chlorophyll content, calyx anthocyanin content, and calyx total phenol. Data obtained were then analyzed using ANOVA (Analysis of Variance) followed by the DMRT (Duncan Multiple Range Test) tests. The results showed that application of 10 ppm cytokinin increased the number of leaves and leaf area significantly. Cytokinin treatment of 30 ppm increased plant height, fresh weight and dry weight of calyx significantly. Leaf chlorophyll content, calyx anthocyanin levels and total phenol increase concomitantly with the increase in cytokinins concentration applied.

**Keywords :** Roselle, *Hibiscus sabdariffa* L., cytokinin, anthocyanin, phenol.