

**Pengaruh Giberelin terhadap Pertumbuhan dan Kandungan Senyawa  
Bioaktif Tanaman Kale  
(*Brassica oleracea* var. *acephala* DC.)**

**INTISARI**

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Tanaman kale merupakan jenis sayuran berdaun hijau dari famili Brassicaceae yang mendapat julukan superfood karena memiliki kandungan nutrisi yang tinggi serta kaya akan senyawa bioaktif. Senyawa bioaktif seperti polifenol, karotenoid dan vitamin C diketahui berpotensi sebagai antioksidan yang memberikan manfaat bagi kesehatan. Penelitian ini dilakukan untuk mengkaji pertumbuhan serta kandungan senyawa bioaktif pada tanaman kale yang diberi perlakuan giberelin dengan konsentrasi yang berbeda. Penelitian dilakukan pada bulan April - Agustus 2021 di Desa Kalirejo, Kecamatan Lawang, Kabupaten Malang dan laboratorium kimia Universitas Muhammadiyah Malang. Penelitian ini menggunakan rancangan acak lengkap (RAL) dengan faktor giberelin yang terdiri dari 4 taraf konsentrasi (0 ppm, 50 ppm, 100 ppm, dan 200 ppm). Data yang diperoleh dianalisis dengan menggunakan ANOVA (*Analysis of Variance*) satu arah, yang dilanjutkan dengan uji Duncan (DMRT) pada  $\alpha$  5%. Hasil penelitian ini menunjukkan bahwa konsentrasi giberelin 100 ppm memberikan pengaruh paling signifikan terhadap luas daun ( $71,06 \text{ cm}^2$ ), bobot basah tanaman ( $239,24 \text{ g}$ ) dan bobot basah konsumsi ( $76,16 \text{ g}$ ) dari tanaman kale. Konsentrasi giberelin 100 ppm memberikan pengaruh peningkatan paling signifikan pada kandungan klorofil total ( $4,91 \text{ mg/g}$ ), kadar fenol total ( $869,22 \text{ mg/kg}$ ) dan kadar vitamin C ( $127,85 \text{ mg/100g}$ ) tanaman kale.

**Keyword:** giberelin, pertumbuhan, senyawa bioaktif, kale.

## Effect of Gibberellin on Growth and Content of Some Bioactive Compound in Kale (*Brassica oleracea* var. *acephala* DC.)

### ABSTRACT

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Kale is a type of green, leafy vegetable belonging to the Brassicaceae family. Because of its high nutritional value and abundance of bioactive compounds, it has been dubbed a "superfood." Bioactive compounds such as polyphenols, carotenoids, and vitamin C are known to have the potential to act as antioxidants that provide beneficial effects on health. This research was conducted to study the growth and content of bioactive compounds in kale plants treated with gibberellins at different concentrations. This research was carried out in Kalirejo Village, Lawang District, Malang Regency, and the Chemistry Laboratory at Universitas Muhammadiyah Malang between April and August 2021. A completely randomized design (CRD) was used in this study, with four replications for each treatment. The gibberellin treatment, which consisted of four different concentrations (0 ppm, 50 ppm, 100 ppm, and 200 ppm), was carried out by spraying. The collected data were analyzed using one-way ANOVA (Analysis of Variance) and then followed by the Duncan Multiple Range Test (DMRT) at 5% significance. According to this study, increasing gibberellin concentrations up to 100 ppm produced the best results in growing stem diameter, leaf area, fresh weight of plants, and fresh weight of consumed parts. The concentration of 100 ppm also had the greatest effect on bioactive compound content, specifically total chlorophyll, total phenol, and vitamin C levels.

**Keywords:** gibberellins, growth, bioactive compound, kale.