

**PENGARUH NaCl TERHADAP PERTUMBUHAN, KADAR KLOROFIL,
DAN PROLIN TANAMAN KACANG PANJANG**
(*Vigna unguiculata* (L.) Walp. ssp. *sesquipedalis* (L.) Verdc)

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ABSTRAK

Salinitas merupakan salah satu cekaman karena dapat menghambat pertumbuhan dan menurunkan produktivitas tumbuhan. Dampak salinitas pada tumbuhan yaitu terjadinya stres yang menyebabkan gangguan fisiologis seperti penurunan dan penghambatan laju pertumbuhan, penurunan produktivitas dan penurunan kadar klorofil. Setiap tumbuhan memiliki toleransi yang beragam dalam menanggapi cekaman salinitas. Kacang panjang merupakan tanaman pertanian yang sangat penting di Indonesia karena merupakan salah satu komoditi yang banyak dikonsumsi oleh masyarakat Indonesia. Tujuan dari penelitian ini yaitu untuk mengetahui pengaruh NaCl pada berbagai konsentrasi terhadap pertumbuhan, kadar klorofil, dan prolin tanaman kacang panjang. Penelitian ini dilakukan di *greenhouse* Kebun Penelitian Sawitsari dan Laboratorium Fisiologi Tumbuhan Fakultas Biologi Universitas Gadjah Mada. Penelitian ini dilakukan dengan memberikan larutan NaCl konsentrasi 0 mM, 50 mM, 100 mM, dan 150 mM pada kacang panjang. Setelah 35 hari, dilakukan pengukuran pertumbuhan, kadar klorofil dan kadar prolin. Data yang telah didapat kemudian di analisis menggunakan uji *One Way ANOVA* dilanjutkan dengan uji lanjut *Duncan* pada $\alpha = 5\%$. Hasil yang didapat menunjukkan bahwa pemberian NaCl tidak memberikan pengaruh terhadap pertumbuhan, kadar klorofil dan prolin tanaman kacang panjang. Kadar klorofil tanaman perlakuan NaCl lebih tinggi dibandingkan dengan tanaman kontrol sedangkan kadar prolin pada tanaman kontrol lebih tinggi dibandingkan dengan tanaman perlakuan NaCl.

Kata kunci : cekaman, kacang panjang, NaCl, prolin

THE EFFECT OF NaCl ON GROWTH, CHLOROPHYL, AND PROLINE CONTENT OF LONG BEAN PLANT

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ABSTRACT

Salinity was one of the stresses that inhibit growth and reduce plant productivity. The impact of salinity for plant was stress which cause physiological disorders such as decreased and inhibited growth rates, decreased productivity, and decreased chlorophyl levels. Each plant had variety of tolerance in response to salinity stress. Long bean was very important agricultural crops in Indonesia because it was one of the commodities that consumed by many Indonesian people. The aim of this study was determine the effect of NaCl in various concentration on growth, chlorophyl, and proline content of long bean. This research was conducted in Sawitsari Research Station's greenhouse and Laboratory of Plant Physiology, Faculty of Biology, Gadjah Mada University. This research was conducted by treating NaCl stres on long bean using NaCl solution at 0 mM, 50 mM, 100 mM, and 150 mM concentration. After 35 days, measurement are conducted on growth, chlorophyll content and proline levels using spectrophotometer. Obtained data were analyzed by One Way ANOVA test and continue by Duncan post hoc test at $\alpha = 5\%$ using SPSS program. The result showed that NaCl stres treatment did not affect plant growth, chlorophyll content, and proline content. On plant growth and chlorophyll content, NaCl treatment plants get the results higher than control plants. Proline content in control plants were higher than NaCl treatment plants.

Keywords : long bean, NaCl, proline, stress