

PENGARUH SALINITAS TERHADAP PERTUMBUHAN, INDEKS STOMATA DAN KANDUNGAN FLAVONOID TOTAL DAUN TANAMAN KUMIS KUCING (*Orthosiphon stamineus* Benth.)

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INTISARI

Daun kumis kucing (*Orthosiphon stamineus* Benth.) dapat dimanfaatkan sebagai obat penyakit rematik, diabetes, hipertensi dan antioksidan. Hal tersebut dikarenakan kumis kucing mengandung berbagai senyawa metabolit sekunder seperti flavonoid. Perlakuan salinitas berupa NaCl diperkirakan dapat meningkatkan kandungan flavonoid total tetapi dapat menyebabkan stress abiotik pada tanaman yang berpengaruh terhadap pertumbuhan dan stomata daun. Tujuan dari penelitian ini adalah mengetahui pengaruh salinitas terhadap pertumbuhan, indeks stomata dan kandungan flavonoid total kumis kucing. Bibit kumis kucing yang telah disemai 4 minggu diberi perlakuan salinitas NaCl dengan variasi konsentrasi yaitu 0 ppm (kontrol), 2500 ppm, 5000 ppm dan 7500 ppm disiramkan ke tanaman pada minggu 1 dan 3 sebelum panen, masing-masing perlakuan dengan 2 ulangan (6 kali panen). Tinggi tanaman, jumlah daun, berat basah dan berat kering diukur 2 minggu sekali. Indeks stomata dan kandungan flavonoid total diukur 3 minggu sekali. Data yang diperoleh dianalisis menggunakan ANOVA dan perbedaan antar perlakuan duji dengan *Duncan Multiple Range Test* (DMRT) pada taraf signifikansi 5%. Hasil yang didapatkan yaitu rerata tinggi tanaman, jumlah daun, berat basah dan berat kering serta indeks stomata tertinggi pada perlakuan 0 ppm (kontrol), perlakuan konsentrasi 2500, 5000, 7500 ppm mengakibatkan tanaman lebih pendek, jumlah daun sedikit, berat basah, berat kering, dan indeks stomata daun menurun tetapi kandungan flavonoid total meningkat. Berdasarkan penelitian ini, salinitas konsentrasi 7500 ppm menghambat tinggi tanaman, menurunkan jumlah daun, berat basah, berat kering dan indeks stomata daun tetapi meningkatkan kandungan flavonoid total daun tanaman kumis kucing.

Kata kunci : *Orthosiphon stamineus* Benth., Salinitas, Pertumbuhan, Indeks stomata, Flavonoid

**EFFECT OF SALINITY ON GROWTH, STOMATAL INDEX AND
TOTAL FLAVONOID CONTENT OF CAT WHISKER LEAVES
(*Orthosiphon stamineus* Benth.)**

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ABSTRACT

Cat whisker leaves (*Orthosiphon stamineus* Benth.) are used to treat rheumatic, diabetes, hypertension and antioxidant. Due to it contain various secondary metabolite such as flavonoid. Sodium chloride treatment is predicted can increase total content flavonoid but can cause abiotic stress in plant the affect to growth and stomatal leaves. This research was aimed to know the effect of salinity on growth, stomatal index and total flavonoid content of cat whisker leaves. Four weeks seedling were treated sodium chloride with various concentration 0 ppm (control), 2500 ppm, 5000 ppm and 7500 ppm, applied to plant at week 1 and 3 before harvesting, for each treatment with 2 replicates (6x harvesting). Plant height, leaf number, fresh and dry weight were measured each 2 weeks. The stomatal index and total flavonoid content were measured each 3 weeks. Data obtained were analyzed using ANOVA and the different between treatment were tested with *Duncan Multiple Range Test* (DMRT) at significant level of 5%. The results showed that average of plants height, leaf number, fresh and dry weight and stomatal index increased on concentration 0 ppm (control), NaCl treatment concentration 2500, 5000 and 7500 ppm causes shorter plants, few leaf number, fresh and dry weight, stomatal index and total flavonoid content decreased. Based on this research, can be concluded that concentration 7500 ppm decreased plants height, leaf number, fresh weight, dry weight and stomatal index but increased total flavonoid content of cat whisker leaves.

Keywords : *Orthosiphon stamineus* Benth., Salinity, Growth, Stomatal Index, Flavonoid