

**EFEK CEKAMAN GARAM DAN ASAM SALISILAT TERHADAP  
PERTUMBUHAN DAN HASIL TANAMAN BAYAM CABUT (*Amaranthus  
tricolor* L.)**

Hamal Agung Priyono

11/316239/BI/08768

**INTISARI**

Cekaman garam diketahui mempunyai efek merugikan bagi tanaman, sementara asam salisilat (SA) adalah hormon tumbuhan yang berperan dalam pertahanan tumbuhan terhadap cekaman. Penelitian ini dilakukan untuk mempelajari pengaruh cekaman garam dan SA terhadap pertumbuhan dan hasil tanaman bayam cabut (*Amaranthus tricolor* L.). Percobaan menggunakan Rancangan Kelompok Lengkap Teracak dengan dua faktor dan empat ulangan. Faktor pertama adalah NaCl dengan konsentrasi 0 ppm ( $A_0$ ), 500 ppm ( $A_1$ ), 1000 ppm ( $A_2$ ), dan 2000 ppm ( $A_3$ ). Faktor kedua adalah SA dengan konsentrasi 0 ppm ( $B_0$ ), 100 ppm ( $B_1$ ), dan 200 ppm ( $B_2$ ). Parameter yang diamati antara lain tinggi tanaman, panjang akar, jumlah daun, luas daun, berat segar, berat kering, kadar air tajuk, kadar klorofil daun, dan kadar vitamin C daun. Data dianalisis dengan Analisis Variansi (ANOVA) pada tingkat signifikansi  $\alpha = 5\%$  dan dilanjutkan dengan Uji Jarak Ganda Duncan. Hasil penelitian menunjukkan pengaruh utama perlakuan NaCl dan SA dapat menurunkan pertumbuhan dan hasil tanaman. Berdasarkan analisis statistik, pengaruh utama dan pengaruh interaksi NaCl dan SA bersifat tidak signifikan terhadap pertumbuhan dan hasil tanaman bayam cabut.

**Kata kunci:** cekaman garam, asam salisilat, bayam cabut, pertumbuhan, hasil

## EFFECT OF SALT STRESS AND SALICYLIC ACID ON GROWTH AND YIELD OF AMARANTH (*Amaranthus tricolor* L.)

Hamal Agung Priyono  
11/316239/BI/08768

### ABSTRACT

Salt stress is known for adverse effect on plant, while salicylic acid (SA) is a hormone which has a role on plant defence against stress. This present study was conducted to determine the effects of salt stress and SA on growth and yield of amaranth (*Amaranthus tricolor* L.). Experiment was carried out based on Randomized Complete Blocks Design with two factors and four replications. The first factor (A) was NaCl at four levels: 0 ppm (A<sub>0</sub>), 500 ppm (A<sub>1</sub>), 1000 ppm (A<sub>2</sub>), and 2000 ppm (A<sub>3</sub>). The second factor (B) was SA at three levels: 0 ppm (B<sub>0</sub>), 100 ppm (B<sub>1</sub>), and 200 ppm (B<sub>2</sub>). Observed parameters were plant height, root length, number of leaves, leaf area, fresh weight, dry weight, shoot water content, leaf chlorophyll content, and leaf vitamin C content. Data was analyzed using Analysis of Variance (ANOVA) at 5% level of significance and followed by Duncan's Multiple Range Test (DMRT). The results showed the main effects of NaCl and SA decrease growth and yield of plants. Based on statistical analysis, the main effect and the interaction effect of NaCl and SA were not significant on growth and yield of amaranth.

**Keywords:** salt stress, salicylic acid, amaranth, growth, yield