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Effect of Salinity on Carbon Isotope Discrimination in Chamomile

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Abstract : The Effects of salinity level and duration on carbon isotope discrimination (Δ) of Matricaria chamomilla and Matricaria aurea were evaluated. Four ecotypes of M. chamomilla and four ecotypes of M. aurea were grown at different NaCl concentrations (control, 6, 12 and 18 dS/m) in sand culture condition. Carbon isotope discrimination (Δ) varied significantly ($p<0.001$) among ecotypes. The amount of carbon isotope discrimination (Δ) increased in first salinity level (6 dS/m), but in other levels (12 and 18 dS/m) it did not increase. Stages of salinity treatments (two stages: first from seedling stage until the end of the experiment and second stage of stress exertion began at stem elongation and seedlings emergence from rosette stage to harvest) had not a significant difference. Study of two spices of chamomile showed the M. aurea had a higher amount of carbon isotope discrimination (Δ) (22.9%) than M. chamomilla (22.48%).

Keywords : salinity, carbon isotope discrimination, Matricaria chamomilla, Matricaria aurea
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