

Effect of Salinity on Carbon Isotope Discrimination in Chamomile

Authors : Mehdi Ghanavati

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*

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020