

Title: Potential of *ulva lactuca* extract on growth, biochemical constituents, and activity of PEPcarboxylase of *Zea mays* seedlings

AMANİ ABDEL-LATİF[1], BADR REEM[1], HASSAN INJY[1] AND GAMAL OSMAN[2]

[1]*Department of Botany and Microbiology, Faculty of Science, Alexandria University, Egypt*
[2]*Department of Biology, Umm Al-Qura University, Makkah, KSA*
[3]*Department of Microbial Genetics, Agricultural Genetic Engineering Research Institute (AGERI), Giza, Egypt*
[*]*Corresponding author's email: geosman@uqu.edu.sa*

Abstract:The effect of applying *Ulva lactuca* aqueous extract (ULAE) with different concentrations on the growth of maize seedlings was studied. The extract was applied as foliar spray and in other experiment was incorporated in the growth nutrient solution. Growth parameters, mineral nutrients, photosynthetic pigments, protein profile, and phospho enolpyruvate (PEPCase) activity were monitored. Presoaking maize grains in different ULAE was an effective technique to obtain better growth. Seedlings sprayed with 0.5% or 1% ULAE showed a significant increase in growth and biochemical parameters. Higher concentration (5%) showed inhibitory effect. There were variable peptides with different low molecular weights that were synthesized in all treatments except for the control one (100% H). For example, in seedlings sprayed with 5% ULAE proteins as 27, 24, 23, 12 and 10 KDa were synthesized. Similar low molecular weight proteins were synthesized in all other treatments but with different band intensities. Furthermore, treatments with ULAE as a foliar spray or supplemented in the growth medium differentially affected protein expression in Z. mays seedlings. New proteins were expressed in the treated seedlings which could be due to the action of components in the extract that are bioactive for growth. PEP carboxylase activity in Z. mays seedlings grown in different combinations of Hoagland's solution and ULAE was higher than that of seedlings sprayed with ULAE alone. There was a gradual decrease in enzyme activity in response to increasing ULAE applied as foliar spray and the least activity was recorded in seedlings sprayed with 5% ULAE

Biography

Amani Abdel-latif has completed her PhD 1996 at the through a DAAD scolarschip in Mainz University, Germany. She had postdoctoral Scholarships to do postdoctoral researches at the Institute of Ecophysiology, University of Tübingen, Germany and the institute of Wood Physiology , Hamburg , Germany for 4 months (every year) , This work was financed by a grant from the Commission of the European Communities by the Programme Agriculture and Fisheries (contract FAIR CT96 – 1887). She has published more than 20 papers in reputed journals (e.g. Plant methods) and has been serving as Professor of plant physiology at the faculty of science Alexandria university,Egypt

Presenting author details
Full name: Amani Ahmed Abdel-latif
Contact number:002-1000416526
E -mail account : krhamani@hotmail.com

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