Improvement of growth and some metabolites of the salt affected Anabaena circinalis by calcium

Awatif F. Hifney

Abstract:

The growth and some metabolic activities of Anabaena circinalis, which were grown under different salinity stress levels were followed and it has been found that these species can tolerate NaCl salinity to the level of 80 mM and survived to the level of 0.5 M of NaCl. Higher doses of salinity caused reduction in growth criteria (Absorbance, chlorophyll content) with the time elapsed, reduction of protein content, and caused increasing in carbohydrate content, significance increasing in proline content was also recorded. Addition of Ca+2 to the salinized culture caused improvement in growth and improved K+/Na+ ratio which increase the osmoprotectant, as well as protect this organism from the toxic effect of NaCl.

Keywords: Anabaena circinalis; salinity; calcium

Published In:

Journal of Biology and Earth Sciences, Vol. 3 - No. 1, pp. 120 - 128