عنوان مقاله:

Impact of Salinity and pH on Several Species of Anabaena (Nostocaceae, Nostocales) Isolated from Rice Fields in Iran

محل انتشار:

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خلاصه مقاله:

The purpose of this study is to developa biofertilizer based on filamentous nitrogen-fixing cyanobacteria selected from ricefields and to generate a technological packagecompatible with its use for the rice cropin Iran. Cyanobacteria was isolated and purifiedfrom rice fields in Kalate Naderi. Inthis research we studied the effect of salinity(NaCl, ۰, ۱, ۲ and ۴%) and pH (۵, ۷, ۹ and۱۱) on growth and chlorophyll-a contentsin six species of Anabaena. Results showedthat Anabaena sphaerica Bornet & Flanaultpossessed the best adaptation to pH changes.It could be more active in ۵-۱۱ pH values.A. vaginicola F.E. Fritsh & Rich andA. variabilis Kutzing ex Bornet & Flanaultwere remarkable for salinity tolerance. Theyadapted to salinity stress up to ۲% salt concentrationin the medium. Our results indicatedthat the growth of all strains decreaseby ۴% salt concentration and pH ۱۱. Indeed,Anabaena is a cyanobacterium with nitrogenfixation ability and high potency of adaptationto environmental stress. So, it canbe a useful candidate for .biofertilizer in agriculture,particularly in rice fields

کلمات کلیدی:

Biofertilizer, Heterocyst cyanobacteria, pH stress, Rice field, Salinity stress