

Celolytic Activity of Bacteria of the Bacillus Genus Isolated from the Soil of Zailiskiy Alatau Slopes

Authors : I. Savitskaya, A. Kistaubayeva, A. Zhubanova, I. Blavachinskaiya, D. Ibrayeva, M. Abdulzhanova, A. Otarbay, A. Isabekova

Abstract : This study was conducted for the investigation of number of cellulolytic bacteria and their ability in decomposition. Seven samples surface soil were collected on cellulose Zailiskii Alatau slopes. Cellulolytic activity of new strains of Bacillus, isolated from soil is determined. Isolated cellulose degrading bacteria were screened for determination of the highest cellulose activity by quantitative assay using Congo red, gravimetric assay and colorimetric DNS method through of the determination of the parameters of sugar reduction. Strains are assigned to: B. subtilis, B. licheniformis, B. cereus and, B. megaterium. Bacillus strains consisting of several different types of cellulases have broad substrate specificity of cellulase complexes formed by them. Cellulolytic bacteria were recorded to have highest cellulase activity and selected for optimization of cellulase enzyme production.

Keywords : cellulose-degrading bacteria, cellulase complex, foothills soil, screening

Conference Title : ICSB 2014 : International Conference on Soil Biodiversity

Conference Location : Paris, France

Conference Dates : June 26-27, 2014