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STUDIES ON PECTINOLYTIC BACTERIA USEFUL IN FRUIT JUICE INDUSTRY

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ABSTRACT

Capturing and Exploitation of diversified microorganisms from different habitats and their optimum utilization in industrial sector is the need of the hour. Soil samples collected from commercial crops (maize and banana) of West Godavari district A.P. were screened for the production of Polygalacturonase, using citrus pectin as carbon source. Two potential Polygalacturonase producing bacteria, one from each crop field soil which produced maximum zone of hydrolysis on pectin agar were selected. The bacterial strains were identified as *Bacillus subtilis* MRRP129 (KF621016) from banana, *Bacillus axarquiensis* MRRP128 (KF621022) from maize fields by 16S rRNA sequencing. Maximum production of the enzyme was observed at 32^0 C temperature and pH 7, at 72 hours of incubation, when 1% pectin was used in static conditions, for both the strains. The isolates in this study produced good amount of polygalacturonase activity at neutral pH; hence, they can be useful in juice industry to increase the yield of banana, grape, or apple juice.

KEYWORDS: Polygalacturonase, Pectin Agar, Enzyme Production, *Bacillus Subtilis, B. Axarquiensis*