

Isolation of protease producing bacteria from a biofertilizer generated from a municipal solid waste

■ G.J. ANILA, AYONA JAYADEV AND S. NAVAMI

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SUMMARY : Micro-organisms, one of the most potent of organisms on earth, show pronounced capacities to produce different enzymes depending on their source of isolation. Proteases are one among the most important industrial enzymes that execute a wide variety of functions and have various important biotechnological applications. There are various microorganisms which are capable of producing the enzyme protease. In the present study, a biofertilizer generated from Municipal Solid Waste was prospected for proteolytic micro-organisms. For this, the total microbes in the product were isolated and then each of the isolate was separately screened for proteolytic activity by plate assay using casein as substrate. A total of 18 colonies were selected from the total isolated bacteria based on colony morphology. Of these, two colonies (C5 and C16) showed halo zone in casein agar medium. These two colonies were later subjected to enzyme activity testing to compare the level of activity among them. Isolate C5 showed to be potent. Gram staining reactions and standard biochemical tests showed that the two cultures with protease producing capacity belonged to *Pseudomonas* sp. and *Klebsiella* sp., respectively.

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Author for correspondence :

AYONAJAYADEV

Department of
Environmental Sciences,
All Saints College,
THIRUVANANTHAPURAM
(KERALA) INDIA
Email:sureshayona@gmail.
com

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