

CHARACTERIZATION OF SELECTED PROTEOLYTIC BACTERIA FROM DOMESTIC WASTE

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Abstract. Compost is a kind of fertilizer which is produced by synergism of various microorganism that produces hydrolytic enzyme to degrade the organic material as a substrat. The purpose of this research are to characterize some protelolytic bacteria that live in the domestic waste at composting process. Here we report, five selected proteolytic bacteria were screened using the clear zone method. The five isolates were PKMA₄ and PKMG₂ from mesofilic phase, PKTB₃ and, PKTD₄ from termophilic phase and PKPG₂ from maturation phase of compost. The results of measurement of protease activity for five isolates at the optimum growth time obtained PKMA₄ = 0.1716 U/mg, PKMG₂ = 0.197 U/mg; PKTB₃ = 0.333 U/mg; PKTD₄ = 0.167 U/mg and PKPG₂ = 0.207 U/mg. Based on these results concluded that PKTB₃ isolates from thermophilic phase have better proteolytic activity than other isolates.

Key Words : *proteolytic, domestic waste, compost, protease*