

ABSTRACT

Screening of rubber-degrading bacteria from landfill was determined. Synthetic rubber was placed in 500-mL beaker with 100 g soil sample from the landfill. The soil sample was subjected to physical and chemical analysis. Sterilized distilled water was added to the rubber buried in the soil and incubated for 2 months. The rubber with moldy growth was rinsed with sterilized distilled water and placed in molten Starch Casein agar. It was incubated at 28°C for 2 weeks. The isolates were streaked into Starch Casein agar for purification and incubated at 28°C for 1 week. Spot inoculation was performed. Colonial and morphological characterization was determined. Colonies resembling Actinobacteria were inoculated into synthetic and natural rubber in water agar and nutrient agar. It was incubated at 28°C for one week. The results showed that the actinomycetes were able to grow in natural rubber and synthetic rubber and used as a carbon source. The isolated bacteria conformed to the characteristics of Actinobacteria. Statistics showed that there was a significant decrease in the weight of the natural and synthetic rubber in the water agar. It was possible that the carbon present in the (NR/SR) was being utilized by the actinomycetes because there was no carbon available in water agar. The isolates were able to degrade rubber in water agar by making the natural and synthetic rubber as their Carbon source. Nutrient and water agar were used as the enrichment medium for the rubber degrading bacteria. The Actinomycetes in water agar degraded more than in nutrient agar.