

## ABSTRACT

This study was carried out to investigate the best method isolating actinomycetes from the soils of Menengai crater. Based on land terrain and differences in vegetation, the study area was divided into regions A, B, C and D. Soil samples were collected from 8 sampling points from each region. The samples were separately mixed to form composite samples. To isolate actinomycetes, three isolation media such as starch casein (SC), Luria Bertani (M1) and starch nitrate (SN) agar were used. Prior to isolation, the soil samples were heat for 1 h at 121°C. In serial dilution method, serial dilution upto 10<sup>-6</sup> was carried out. On the other hand, in membrane filtration the pre-treated soil samples were sprinkled on the membrane filters previously placed on the isolation media and the membranes were removed after 4 d of incubation. Direct inoculation involved application of 2-3 mg of soil on the culture media. Characterization of the isolates was carried out by cultural, morphological and biochemical means. There was a significant difference in the number of actinomycetes isolated using the three media (F=7.252999 P=0.000897). The number of actinomycetes isolated using serial dilution, membrane filtration and direct inoculation were also significantly different (F=8.683374 P=0.000237). Likewise, the number of actinomycetes isolated from region A, B C, and D varied significantly (F= 27.50 P=0.000). **Keywords:** Actinomycetes; Crater; Isolation; Kenya; Menengai