

6th Annual Conference on

MICROBIOLOGY

&

Annual Conference on

MICROBES AND BENEFICIAL MICROBES

October 16-17, 2017 Baltimore, USA

Effects of compost enriched with *Streptomyces* spp on maize rhizosphere microbial community and plant development**Mekbib S B and Mota T**

National University of Lesotho, Lesotho

Compost associated bacteria are powerful agents to ameliorate soil quality and increase production of crops in agriculture. The application of compost amended with *Streptomyces* spp to acidic soils is mandatory to increase soil pH to neutral for growth of maize. In this study, two sources of compost: chicken (broiler) and cattle (cow) with compost heaps of 1 m×3 m×a.25 m were prepared and composited for 7-21 days at greenhouse temperature (24°C), after initial wetting with 1 liter of distilled water. As the compost was aerated and homogenized weekly, the pH measurements were taken to see the changes in the composting activity. Unlike the broilers manure, the cow manure exhibited relatively low pH and supported the germination of maize seed and its development and selected to be used in this trail throughout. Seven *Streptomyces* strains isolated from different soils of Lesotho were used to make single and combined treatments under greenhouse experimentations using the cow manure. All treatment applications showed faster maize seed germination rate (70%) within 3-4 days and plant growth (60-84.4%) better than the un-enriched compost and raw soil. Significant reduction of rhizobium fungal populations were also seen by *Streptomyces* enriched compost compared to the un-enriched compost and soil. Therefore, the use of *Streptomyces* enriched cow compost is commendable to be used as bio-fertilizer and bio-control agent in the production of crops.

sbmekbib7@gmail.com