

The Effect of Glyphosate on *Bacillus subtilis* growth, α -Amylase Activity and Plasmid

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Aim of the study: The current study focuses on the effect of Glyphosate on *Bacillus subtilis* growth, α -Amylase Activity and Plasmid.

Material and Methods: *B. subtilis* which was used as a source of α -amylase obtained from *B. subtilis* ATCC 6051. Bacteria are grown on nutrient agar at 37°C for 24 h for inoculum preparation and then a loopful of the growth was transferred to Laura Broth (LB) liquid medium. Different concentrations (20, 28, 36 and 44 mg/ml) of the commercial glyphosate were used for bacterial growth, α -amylase activity and rate of plasmid.

Results: In this work, the effects of different concentrations of glyphosate-based herbicide on *Bacillus subtilis* were tested. Bacterial growth, both bacterial and commercial α -amylase activity has decreased against concentration of test compound, respectively. On the other hand, plasmid has shown weakly amplification against test compound, respectively.

Keywords: Glyphosate, *Bacillus subtilis*, alpha amylase, plasmid