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EFFECT OF GROWTH PROMOTING MICROBES ON INITIAL GROWTH OF MAIZE

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ABSTRACT: The effect of plant growth-promoting rhizobacteria (PGPR) on seed germination, seedling growth of maize was evaluated in pot experiment. Four bacterial strains namely, *Pseudomonas* sp 1. (florescent strain), *Pseudomonas* sp 2. (non-florescent strain), *Azospirillum* sp. and *Azotobacter* sp., isolated from maize rhizospheric soil were used. Seeds were inoculated by dipping in single solution of each bacterium containing 10⁸ colony forming units per ml. The control seeds are dipped in sterilized water. The highest germination percentage was obtained from seed inoculated with *Azospirillum* sp. This treatment also recorded the best root length. The maximum heights of plants were observed with seeds treated with *Pseudomonas* sp 1. with an increase of 69.85%. The highest shoot and root dry biomass were also recorded with *Pseudomonas* sp 1.(florescent) with an increase of 64.67% and 49.67% respectively as comparative to control. These results suggest that specific combinations of PGPR can be considered as efficient alternative biofertilizers to promote maize seed germination, biomass and crop yield.

Keywords: *Biofertilizer, maize, plant growth promoting bacteria*

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