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RESEARCH ARTICLE

Assessment of phosphate solubilizing activity of different fungal and bacterial isolates

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SUMMARY

In vitro studies were conducted to find out most efficient phosphate solubilizers. The 23 fungal and 9 bacterial phosphate solubilizing microorganisms were isolated from rhizospheric soil of different weeds occuring in sorghum and cotton crops by serial dilution method. Most efficient 'P' solubilizers were identified on the basis of halo zone formation on Pikovskaya's agar medium, reduction in pH, organic acid production, and P_2O_5 solubilized in broth culture. The result indicated that among fungi *Aspergillus niger*-20 and *Aspergillus niger*-5 and among all bacterial isolates Dr. PDKV strain of PSB and PSB-3 produced maximum halo zone (5.33 to 4.66 mm) and they solubilized more tricalcium phosphate *i.e.* 26.24 to 18 P_2O_5 µg/ml with reduction in pH (3.1 to 3.30) with increasing in titrable acidity *i.e.* 3.60 to 3.0. PSB-3, PSB- 4, PSB-6 and PSB-8 produced indole acetic acid (IAA).

Key Words : Phosphate solubilizing, Rhizospheric, Fungal, Bacteria

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