



**PHOSPHATE SOLUBILISATION EFFICIENCY OF BACTERIAL FLORA
ASSOCIATED WITH TRADITIONAL LIVESTOCK MANURE IN CENTRAL
HIMALAYA: A POTENTIAL OPTION FOR MOUNTAIN AGRO-ECOSYSTEM**

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ABSTRACT:

Presently not only in India but in the whole world much attention is being given to organic farming. In remote rural areas of the Himalaya this process of traditional organic farming is still in practice. It not only maintains the soil fertility but crop production is also for better in terms of quality and quantity subject to other climatic factors. Microbial degradation of livestock material starts from the very beginning when it comes in contact to the environmental factors. This open heap system invites both aerobic and anaerobic bacteria. Plant growth promoting activity in terms of phosphate solubilising efficiency of indigenous bacterial population of livestock manure during decomposition is given in the present report. A total of 58 bacterial strains were isolated out of which 27 were found positive for phosphate solubilisation and 40 strains were observed to produce ammonia in broth medium in the present study,. The bacterial strain B27/2912(2) showed highest amount of phosphate solubilised (320 µg/ml) with solubilisation index 5.2 after 120 days of progressive decomposition, followed by B24/1610(3) and U5/1610 with 318 and 300 µg/ml respectively after 60 days of decomposition. This study also indicated a negative correlation between pH of the medium and the amount of phosphate to be solubilised by bacteria. There are no earlier reports available on the isolation of phosphate-solubilizing bacteria (PSB) from traditional livestock manure during decomposition process in Uttarakhand Himalaya.

KEYWORDS: Phosphate solubilising bacteria, Phosphorus, available-P, Pikovskaya's, Bacilli

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