

INFLUENCE OF RHIZOPHORA MUCRONATA AND PISUM SATIVUM ON SOIL CHARACTERISTICS

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Abstract: Plants inhabit a range of soil and climate type for the growth. However, cultural practices make exotic species also inhabit a different soil and climate. With the idea of studying the requirement of a mangrove plant from the soil, a variety of soil including its native soil brought from different provinces (U.P., A.P., Uttaranchal) and provenances of U.P-Polluted, Irrigated, Roadside were studied for their physical and their nutrient properties initially and after the growth of the *Rhizophora mucronata*. Similarly in artificially made combination of soil to math with the area close to the coal fields, a study was carried out after growing a pulse crop. Barren soil of Uttaranchal with minimum organic matter, CEC, WHC, Moisture% and Total N₂ exhibited best growth of *Rhizophora mucronata* in Meerut climate (35°C, 60% RH). It also exhibited maximum Na⁺ uptake by the plant whereas, the plant did not take up Na⁺ from mangrove soil. Rest of the soil extracted out Na⁺ from the seedling in the form of leachates. The normal irrigated soil initially at pH 8.0, after growth of a pulse crop *Pisum sativum*, lowered down in pH with additional CEC in contrast to the previous observation and also lost organic matter by 50%. The study throws light on regeneration of abandoned and degenerating lands.

Key words: *Rhizophora mucronata*, *Pisum sativum*, Soil-climate regime and Salinity.

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