

Abstract 38 – Paper ID: 060**Influences of Season on Soil Characteristics in the Microhabitat of *Bambusa kingiana* in Manipur**

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Abstract

Bamboo is a group of perennial, evergreen, woody giant grasses having a unique offset rhizome system. Bamboo plays a substantial role in enhancing soil fertility and contributing to carbon sequestration through its extensive root system, which improves soil structure by increasing porosity and promoting aeration. *Bambusa kingiana* is a bamboo species that holds significant ecological, economic, and cultural importance. This study investigates the physical and chemical soil characteristics in the microhabitat of *Bambusa kingiana*. Soil samples were collected from two different sites during the summer and winter seasons to analyse parameters such as texture, pH, moisture levels, oxidisable organic carbon, nitrogen, potassium, and phosphorus. Analysis revealed that *Bambusa kingiana* thrives in soils with a well-drained sandy loam texture and a slightly acidic to neutral pH ranging between 5.9 and 6.8. Key soil parameters, such as oxidisable organic carbon (SOC), available nitrogen (AN), and available phosphorus (AP), were higher during the summer season, measuring $1.4 \pm 0.1\%$, 298 ± 0.5 kg/ha, and 18 ± 0.5 kg/ha, respectively. These conditions support optimal growth by enhancing nutrient uptake and root development. Analysis of soil characteristics helps in understanding the ecological needs of *Bambusa kingiana* for its conservation and cultivation in its natural habitat.

Keywords: *Bambusa kingiana*, Soil characteristics, Season, Habitat, Manipur