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Potentials of Microbial Inoculants in Soil Productivity: An Outlook on African Legumes

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Chapter

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**Abstract**

Nutrient availability is one of the major limiting factors affecting legume production in Africa. With the limited arable land resources, meeting the dietary requirement of the ever-increasing world population becomes a serious challenge. The most frequently deficient nutrient on crop fields is nitrogen (N). Inconvenient increase in prices of chemical nitrogen fertilizers together with the environmental problems associated with their excessive use calls for alternative low-cost and ecologically friendly soil-plant fertilization technologies. Soil microorganisms play significant roles in nutrient mineralization and supply to plant hence promoting plant growth. Soil microbes suppress soilborne plant diseases and destroy environmentally hazardous compounds in soil. Microbial inoculants are agricultural amendments that use microorganisms such as rhizobia and endophytes to promote legume growth. These microbes form symbiotic relationships with the target leguminous plant, and both parts benefit. The structure and function of the plant microbiome are major determinants of plant health and productivity. Microbial inoculants are the potential tools for sustainable agriculture.

**Keywords**

Microbiome Nitrogen fixation Soil fertility Soil health Soil quality

**Notes**

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