**“Microbial siderophores as a sustainable approach for Fe acquisition in Plants as plant growth promotion Trait”**

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For plants to grow and develop efficiently, iron (Fe) is a necessary nutrient. Although bioavailable form of Fe is always low that can be taken up by the plants so it indirectly impacts the human population with minimal amount of Fe in grain. However, a number of variables, such as soil pH, the amount of organic matter present, and the kind of Fe present in the soil, influence how readily available Fe is in the soil. Plant fecundity is a common issue that impacts crop quality and output. The availability of Fe in soil has been increased using traditional methods such chemical fertilisers and amendments; nevertheless, the detrimental impacts of chemical fertilisers on the environment and human health are readily apparent. As a result, methods of sustainable agriculture that depend on microorganisms' innate capacity to solubilize iron in the soil are becoming increasingly popular. Fe can be soluble in soil by a variety of microorganisms, including fungus and bacteria, through processes like reduction, chelation, and acidification. Microbial solubilizers can increase the amount of Fe available in the soil, promote plant growth, and lessen the use for fertilisers made of chemicals. Consequently, using microbial iron solubilizers can be a practical and affordable way to improve increase the amount of Fe in the soil and support sustainable farming. The potential of various microbial strains and their interactions with plants and other microbes in the soil require more investigation. The significance of iron availability for plants and soil, as well as the promise of microbial iron solubilizers as a long-term solution to solve soil iron shortage is of immense importance to meet Fe requirements in human race to overcome malnutrition.