NITROBACTER ACT AS BIOFERTILIZER COMPOSER

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ABSTRACT

The properties of Nitrobacter in nitrogen fixation under the soil was known well around the world, which is Nitrobacter act as microbe agent that oxidize nitrite to nitrate, which is primary source of inorganic nitrogen to plants Photosynthesis and nitrogen fixation are the foundation of all life on earth. According to current knowledge, no plant can fix nitrogen on its own. Some plants, primarily legumes, use symbiotic anaerobic bacteria to fix nitrogen (mainly rhizobia). The dinitrogenase catalyses the reaction-splitting triple-bond inert atmospheric nitrogen (N (2)) into an organic ammonia molecule (NH (3)), which is the nature of biological nitrogen fixing. It is discovered that every known nitrogenase is bacterial, multi-complex, and typically oxygen-liable. It should come as no surprise that creating autonomous nitrogen-fixing plants would take some time since it calls for the building of a complicated enzyme and the creation of anaerobic conditions. However, the more effective and irreversible aerobic variant that requires O2 has almost probably supplanted the anaerobic enzyme in many processes due to the development of protein catalysts (2). On the other hand, nature has demonstrated several instances of evolutionary convergence where an enzyme that catalyses a highly specialized, O (2)-requiring activity has a counterpart that is oxygen-independent and can perform the same reaction in anoxic conditions. I try to take the reader on a simplified path from the typical nitrogenase complex to a potentially simpler version of a light-utilizing nitrogenase that has not yet been identified in this review.

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