

Biogenerated ferric exopolysaccharide as a new nanofertilizer to enhance *Tuber borchii* (Truffle) growth

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The effects of iron exopolysaccharide nanoparticles (Fe NPS) biogenerated during ferric citrate fermentation by *Klebsiella oxytoca* DSM 29614 were tested on the ectomycorrhizal fungus *Tuber borchii* ("bianchetto" truffle). These Fe NPS as iron supplement promoted the growth of the mycelium in vitro conditions at the optimum nanoparticle dosage without affecting hyphal morphology and ultrastructure. Preliminary experiments showed these that these Fe NPS did also not affect *T. borchii* mycorrhizas in greenhouse conditions. These results open up the possibility of using them as iron supplements in truffle plantations where the high level of lime in the soil often induces iron deficiency.