

# DETAILED ECOPHYSIOLOGICAL STUDIES OF *BACILLUS LICHENIFORMIS* STRAINS FOR THE DEVELOPMENT OF A MICROBE-BASED FOLIAR FERTILIZER IN SWEET POTATO

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In the frame of this study, we isolated more than 150 fungal and bacterial strains from the surface (epiphytes), plant tissues (endophytes) and rhizosphere of sweet potato (*Ipomoea batatas*) plants from different plantations. Among them, about 50 isolates have been identified by sequencing.

Recently, detailed ecophysiological studies of *Bacillus licheniformis* strains have been carried out (indoleacetic acid producing ability, siderophore and ammonia production, phosphorus solubilization). We are currently working on further testing of *Bacillus licheniformis* strains (e.g., *in vitro* confrontation tests, analysis of depsipeptide production, germination tests). Furthermore, isolation work is ongoing from further sweet potato samples.

The final objective of our work is to create a high depsipeptide content foliar fertilizer formulation stabilised with chitosan nanoparticles using fungal and bacterial strains with biocontrol capabilities. This foliar fertilizer treatment planned to test extensively under greenhouse and field conditions.

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