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## Indoor lettuce growing on renewable forest soil

Barnabás Kovács<sup>1</sup>, Zsolt Kotroczó<sup>2</sup>, János Kovács<sup>1</sup>, Péter Szabó<sup>1</sup> and László Kocsis<sup>1</sup><sup>1</sup>University of Pannonia, Hungary<sup>2</sup>Szent István University, Hungary

In our experiment we used as growing medium a soil that came from the soil surface (1-3 cm) of a natural deciduous forest ecosystem and we grown lettuce (*Lactuca sativa* L. var. *Capitata* L.) on it in two similar growing boxes. The difference was between of them the intensity of irrigation, the 'Normal'(=N) and the 'Drought-stress'(=D) in order to analyse the effect of the growing on the soil bacterial and fungal density (MPN=Most Probable Number) and the FDA (Fluorescein diacetate hydrolysis) and Dehydrogenase enzyme activity to conclude to the soil total biological activity before and after of the growing. According to the results the number of bacteria decreased significantly until to the end of the cultivation but only in the case of the 'N' box. The dehydrogenase activity showed a significant growing, it has shown a more than 16% increase in both treatment. The agrochemical and physical parameters of the soils were been a part of the test. The decrease of Nitrogen (NO<sub>3</sub>+NO<sub>2</sub>) content was in line with our expectation, but the significant increasing of Phosphorus (98,6%) was not. We assume that the root exudates of the plant and the microorganisms in the rhizosphere mobilized the part of the phosphorus contain what is undetectable by the Ammonium Lactate based laboratory method (MSZ 20135:1999) we applied and it appeared in the result of the after-growing analysis. The work/publication is supported by the EFOP-3.6.3-VEKOP-16-2017-00008 project. The project is co-financed by the European Union and the European Social Fund.

### Biography

Barnabás Kovács is PhD student at the Fesetics Doctoral School at University of Pannonia and the Szent István University. His research area is exploration of soil biological interactions between of plants and microflora. He has published seven related papers in the first two years of his PhD studies.

kovacs1barnabas1@gmail.com

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