

## **IMPACT OF THE DEPTH ON BACTERIAL DIVERSITY IN AN AGRICULTURAL SOIL**

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Bacteria are the most abundant and diverse microorganisms in soils. They play an important role in soil formation, contribute to plant nutrition and are involved in various processes in agroecosystems such as nutrient cycling. The aim of this study was to evaluate the impact of the depth on bacterial diversity and quantity in an agricultural soil. Samples were collected on May 2011 and May 2012 at three different depths : 10, 25 and 45 centimeters. The quantity of total bacteria was measured by real time PCR and the analysis of the diversity was performed by the high throughput sequencing technology. Results obtained by these methods show that the biomass and the bacterial quantity and diversity (Shannon index) decrease with the depth, particularly at 45 centimeters. The biomass is, in average, 6.5 fold less important at 45 cm than at 10 cm and the quantity is 17 fold lower at 45 cm than at 10 cm. Our results also indicate that many taxa, such as Betaproteobacteria, Deltaproteobacteria, Gammaproteobacteria, Acidobacteria and Burkholderiales are influenced by the depth. The results will be presented in more details on the poster.