



## **Dynamic of nickel in the rhizosphere of *Berkheya coddii* using magnetic resonance imaging**

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A limitation to improve the understanding of soil-root interactions is the poor experimental accessibility of processes in the rhizosphere. We used Magnetic Resonance Imaging (MRI) as a non-destructive measurement technique to study nickel (Ni) distribution in the rhizosphere of Ni hyperaccumulator plant *Berkheya coddii*. In a Rhizobox system filled with glass beads, a root monolayer was separated from rhizosphere porous media by a nylon membrane. A Ni solution of 10 mg kg<sup>-1</sup> was applied to the Rhizobox and the Rhizobox system was imaged by means of MRI to obtain the real-time 2-dimensional distribution map of Ni. Nickel concentration was found to increase as approaching the surface of the root-plane showing an exclusion pattern. This result shows that at soluble Ni concentrations found in typical serpentine soils, *Berkheya coddii* does not need to solubilize nickel.