



## **Ionic feedbacks in the rhizosphere - Results of various modelling studies**

H. Nietfeld (1)

(1) Institute of Soil Science & Forest Nutrition, Büsgenweg 2, D-37077 Göttingen, Germany

Previous one-species models (OSp-M) describe the ion dynamics in the rhizosphere as affected by root uptake and supply. But differences between ions with regard to root uptake and supply and possible root-induced pH changes may lead to differences between measured and modelled actual uptake rates. For understanding the feedback reactions in the rhizosphere a multi-species rhizosphere model is required which simultaneously calculate rhizospheric concentration changes and root influxes/effluxes of all essential ions taking into account interactions among them. The objective of this study is to present the results of various modelling studies conducted with a multi-species rhizosphere model (MSp-M). Modelled and measured pH gradients and aluminium and sodium concentration changes in the rhizosphere of different plants grown in various soils are presented. The prime results of a comparative study involving OSp-M and MSp-M are given.