

## **ABSTRACT**

Intraspecific plant-soil feedback is a relationship in which plant affects the composition of the soil and such modified soil affects growth of the same plant species. This relationship and its intensity may be linked with plant dominance and invasiveness. Dominant species can alter the composition of the soil in their favor and thus show positive intraspecific plant-soil feedback.

As the invasive species are commonly being dominant in their new environment, it can be expected that intraspecific positive plant-soil feedback could be an important factor allowing the invasive species to achieve their dominant position and become invasive.

To test if the existence of positive intraspecific feedback could be a general mechanism underlying plant invasiveness I compared intraspecific plant-soil feedback in a group of invasive and introduced, but non-invasive, plants in the Czech Republic. I did this using a preselected set of 34 species - 17 invasive and 17 non-invasive. For realization of the project I used the method of two-phase experiment. The first phase is called soil conditioning – influencing of soil by the plant. In the second phase the same plant species are planted in conditioned soil from the first phase and in control (unconditioned) soil. Then I compared plant biomass from conditioned and unconditioned soil.

The results suggest that invasive species show more positive or at least less negative intraspecific plant-soil feedback than non-invasive species. It means that intraspecific plant-soil feedback could be the mechanism underlying plant invasiveness. These results may improve our understanding of invasive mechanism of plants and thus we can better predict which species are potential invasive.