

EFFICIENCY OF WATER RETAINER TO CONTROL INFILTRATION AND RECHARGE PROCESSES

Contexte et objectifs

Climate change is increasing irrigation water demand. While the demand for food continues to increase, the available water resources remain constant or are even diminishing. Approaches to increasing the efficiency of water use in agriculture are thus urgently required. In the context of a European Project called WATERAGRI, a *biodegradable water retainer* product helping the ground in maintaining a steady water balance by reducing evaporation has been developed. The water retainer is an organic soil conditioner liquid that helps plants to take-up water and reduces the effects of drought and dehydration.

Currently, laboratory tests are being conducted to estimate how the water retainer affects the soil water retention function. The goal of this project is to assess the efficiency of soil water retainers in the field and to evaluate their applicability for 20 European catchments.

Méthodologie

The project is a combination of field and modelling approaches. We will instrument 2-4 soil profiles and assess how the water retainer affects moisture retention, infiltration and recharge dynamics. These field data provide an important indication to what extent the laboratory-based efficiency is applicable to field conditions. The combination of the laboratory- and field-data will provide the basis to assess in which catchments the application of the soil water retainer will increase the efficiency of water resources management.

Supervision

The project will be supervised by Philip Brunner and Oliver Schilling. We will also be in close contact with the partners from the WATERAGRI project, including BOKU in Vienna as well as the Forschungszentrum Jülich in Germany

