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Consequences of climate change on ecosystem functions, water balance, productivity and biodiversity of agricultural soils in the Pannonian area

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Up to now, a number of publications have highlighted the possible effect of climatic changes on certain soil properties, but a comprehensive view of the soil-plant system as a basis for further recommendations is still missing. Especially in the light of the provision of food security, it seems necessary to improve this knowledge especially at individual sites to enable the development of sound adaptation strategies. In the course of a project funded by the ACRP, data with regard to possible changes in the soil - plant system due to changing climatic conditions, namely lasting drought and heavy rain events will be improved, models for the prediction of these changes will be developed or adopted. Apart from the "traditional" tasks of lysimeter studies like soil hydrology or mass transport, a main focus will be laid on soil biological parameters and GHG emissions. The experiment will be carried out at the lysimeter station of AGES, comprising the three main soil types of the pannonian production area (calcaric phaeozem, lS – S; gleyic phaeozem, L – sU; calcic chernozem, lU – sU) in six repetitions each. The lysimeter station will be covered by an automatic, rain sensor driven coverage to allow a simulation of the precipitation according to average conditions compared to lasting drought, interrupted by heavy rainfall.
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