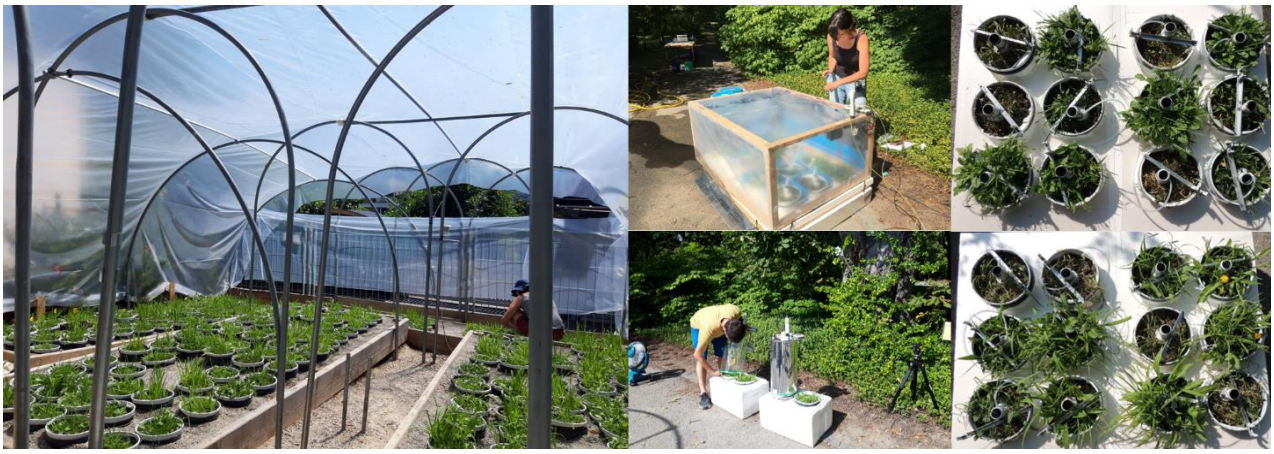
SoilMems



Remember the drought: How soil memories affect grassland resilience

The frequency and severity of drought is increasing, and this leaves grasslands parched. The long-lasting effects of drought may be more difficult to see, as they may be hiding beneath our feet. Plants are continuously interacting with the multitude of soil microbes that inhabit the zone around their roots. Plants transfer carbon, a major food source, to microbes and in return, microbes directly or indirectly increase nutrients, vitamins and other essential resources available for the plant. Drought could disrupt this exchange by reducing the amount of carbon transferred to the soil microbes. The disruption could have a lasting effect, leaving the soil with a 'memory' of drought. A soil's memory could hamper a grassland's ability to cope with a future drought. Like Alice, we will jump down the rabbit hole to find out more about soil's memory of drought: how the soil community changes, and if it functions differently after drought. We will discover if a soil's memory of drought affects the grassland's response to a future drought. We will find out if soil memories are different in grasslands with more plant species, and if these grasslands could offer a solution to better cope with a drier future.

Project Duration: 36 months (18M University of Innsbruck + 18M Teagasc)

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