

## **Setting up a common garden experiment**

Since we all first met at the kick-off event, we had been talking about the possibility of designing a collaborative research project based on a common garden experiment at the Innsbruck Botanical Garden. The goal of this study is to better understand the response patterns of tree species with different hydraulic architectures to a drought intensity gradient, using a multidisciplinary approach (measuring growth, water use, metabolic activity and mycorrhizal relations). In November, the idea started to build up and take shape, and everything is now on track to already get the tree seedlings installed on site.

### **Initial meeting on the 6<sup>th</sup> November**

On the 06/11/23, the different PhD students interested in the project (Alex, Moritz, Marion, Markus, Zoey, Anna and Judith), plus their respective supervisors (Michael Bahn, Ilse Kranner, Walter Oberhuber, Ursula Peintner, Stefan Mayr, Georg Wohlfahrt, Thomas Karl and Werner Jud) met to discuss about the project. After an introductory presentation of the general background and main ideas given by Alex, we brainstormed about the details of the experimental design and overall structure of the research plan. The meeting was productive, as it allowed us to agree on specific aspects, such as which species we should tackle, or how many trees should be included in the study, as well as on the potential tasks that could be assigned to the different researchers involved\*. By the end of the meeting, we visited the area where the common garden will be setup, including the adjacent container shed where scientific instruments will be kept.

\*Due to the logistical nature of the BVOC and COS measurements, Anna and Judith will in the end not take part in this common garden experiment but will instead carry out a separate complementary experiment using the VOC-SCREEN facility at the Helmholtz Center in Munich in collaboration with a local research team. Anna will however, measure photosynthetic activity in the common garden experiment.

### **Nursery visit on the 21<sup>st</sup> November**

On the 21/11/23, Markus and Alex visited the Landesforstgarten tree nursery in Bad Häring, from where the seedlings for the experiment will be obtained. This was also a productive day, as it allowed us to ask many questions to the person in charge and check out the trees ourselves. We learnt a lot, obtaining information on how the seedlings are produced, grown and kept. As a bonus, we got to have a plentiful and tasty lunch in a nice Asian buffet restaurant that Markus knew about.

### **Upcoming events**

Before the end of November, we will return to the nursery in order to select and purchase the tree seedlings, which we expect to install in the common garden by the first week of December. We cannot wait to see our seedlings ready in the Botanical garden!

[Text by Alex Tunas]

[Images by Alex Tunas and Markus Neurauter]



Markus inspecting the mycorrhiza of a seedling.



Tree nursery from where the trees will come from.