

## **ACCES RULES OF THE PLANT PHENOTYPING FACILITIES IN BRC, SZEGED**

### **Shoot Stress Diagnostic System (SSDS):**

The platform is located in a greenhouse environment, and consists of a computer controlled watering- and RGB imaging station. Chlorophyll fluorescence-, as well as thermal imaging can also be performed. The plants are moved by a semi-robotic system to the watering- and imaging station. The system is dedicated to medium sized plants, such as wheat and barley, and provides for each individual plants the growth curves of plant height and leaf area/green biomass, average values of leaf temperature and variable fluorescence parameters (quantum yield of Photosystem II), as well as water profiles. The system is optimized for monitoring changes in plant growth and physiological parameters under drought stress. The platform can handle up to 400 plants.

### **Root Stress Diagnostic System (RSDS):**

The minirhizotrons provide quantitative data on the root system during the whole life cycle of 100 plants grown in soil. This setup is located in greenhouse and consists of controlled watering and RGB imaging system with digital cameras for photography of transparent cylinders from different side views and bottom. Transparent tubes are installed into the soil of the cylinders and roots growing around these tubes can be imaged by borescope. By combination of the two imaging procedures the Root Surface Area (RSA) is captured with high coverage. The analysis of root traits on the basis of minirhizotron images is accomplished by using various software packages.

### **The access includes**

Infrastructural, logistical, technical and scientific support (including greenhouse and computer facilities, imaging instruments, software packages for data analysis). Since growing the plants is a long process the access can include the help of local technicians, or the users can take care of the plants themselves.

### **Users:**

The facilities can be used by both internal and external users.

**Internal users from BRC** should contact for access to the facilities Dr. Imre Vass ([vass.imre@brc.mta.hu](mailto:vass.imre@brc.mta.hu)).

The price is based on the actual operating costs, and depends on the length of the experiment, number of plants, the season (considering energy costs of the greenhouse), as well as on the extent of personal help required from the BRC staff.

**External users from Hungary, or non-EU countries** should contact for access to the facilities Dr. Imre Vass ([vass.imre@brc.mta.hu](mailto:vass.imre@brc.mta.hu)).

The price of the access depends on the length of the experiment, number of plants, as well as the season (considering energy costs of the greenhouse), as well as on the extent of personal help required from the BRC staff.

**External users from EU countries, but outside Hungary** can apply for access via the EPPN network (<http://www.plant-phenotyping-network.eu/eppn/access>). If the application is approved by EPPN then all access costs are covered by the EU-FP7 project. The EU supported cost of the facilities is 187 EUR/day for the SSDS and 180 EUR/day for the RSDS, independent of the number of plants in the experiment.

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