**PHYSILOGICAL FIELD TOOLS**

includes specific laboratory and field equipment for the research on key physiological characteristics of plants, such as photosynthesis (gas-exchange systems and fluorimeters) or for the research of the content and the efficacy of pigments and enzymes (chromatography, electrophoresis, spectrophotometry), it further includes systems for measuring the transpiration using the sap-flow method, devices for the research of spectral-optical properties of leaves (spectroradiometer), measuring leaf area, root scanners, automatic dendrometers etc. To understand the molecular mechanisms of plant adaptation and resilience to environmental stimuli, these ecophysiological techniques are combined with metabolomics approaches. In cooperation with research institutes, universities and industry, the outputs are used primarily to estimate the development of changes in growth and plant production in agriculture and forestry, as well as to test their quality for the food or other manufacturing industries. The research results that are obtained using the ecophysiological laboratory infrastructure are used e.g. for the development and testing of specific measuring instruments and vegetation indices that are used in precision farming and forestry to estimate the vitality of the given stands. This infrastructure is also used for the needs of the ICOS and AnaEE infrastructures.