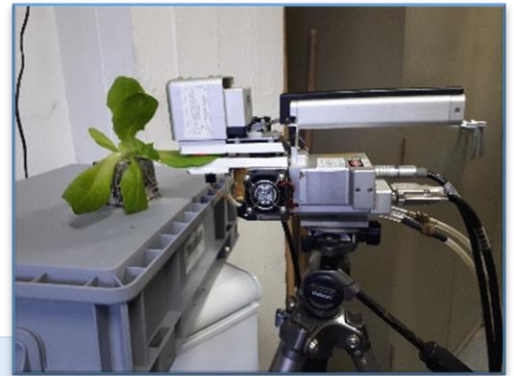


LiCOR 6800

Photosynthesis system



What can the LiCOR 6800 detect?

Detection of **nutrient deficiencies** or **drought stress** before visible symptoms appear.

How do you use the LiCOR?

Before every use, the machine needs to run through **several sensor calibration steps** as described by the manufacturer's instructions. After calibration, the machine can take **readings for several hours**. To obtain meaningful results of plant stress you need to measure the **leaves of a comparable age** (preferably first mature leaf) growing at **comparable light conditions** (same height in the canopy, same side of the plant, similar angle to the light). It is best to take all readings in the morning before 1 pm.

Scientific background & interpretation of the results

The sensor measures the CO₂ and H₂O exchange between a leaf and the surrounding air. It also emits light and detects the generated chlorophyll fluorescence.

The two most common measured gas exchange parameters are CO₂ assimilation rate and stomatal conductance. If plant experiences abiotic stress, e.g. nutrient/drought/heat/high light stress both parameters will decrease. The optimal values however are species and sometimes even cultivar specific. The measurements on plants under optimal conditions are therefore required prior to stress detection.

Pros & Cons

- + Direct measurement of photosynthetic performance, high accuracy, and detail of photosynthesis performance, relatively fast, controlling for environmental effects
- Research oriented equipment, expensive, requires trained personnel to run, interpret the data and troubleshoot

Price range: € 40000 - 60000

Company: Li-COR

More information? <https://www.licor.com/env/products/photosynthesis/LI-6800/resources>