Plant Stress Indications: Methods and Instrumentation (2 credits)
001-2-2043

A 3-day concentrated course

Plants exposed to environmental stresses often exhibit a variety of symptoms or indications. Evaluating physiological and cellular parameters for assessing the severity of stress injury or level of stress tolerance is not always trivial; visual performance ratings are most often subjective. Your neighbor's lawn always looks greener, although objectively it is not always true. The scientific reasoning behind this claim is that it all depends on literally the angle you are looking at, whether you are looking directly above your lawn, seeing all the open spaces, or looking at your neighbor's lawn in a certain angle, seeing only the upper green parts.

Plant species and cultivars vary in their responses to environmental stresses.
The goal of the course is to learn quantitative measurements and instrumentation used to evaluate whole plant physiology.

The topics that will be covered in the course are:
1. Gas exchange
2. Chlorophyll fluorescence
3. Stable isotopes
4. Plant hydraulics
5. Osmotic adjustment
6. Membrane stability
7. Stress-Induced proteins

Lecturer: Shimon Rachmilevitch

Recommended Reading:
R. Pearcey, J Ehleringer, H.A. Mooney and P.W. Rundel (2007). Plant