Leaf Photosynthesis MultispeQ V1.0

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Summary

Measures many photosynthesis-related parameters in <15 seconds, including:

- Chlorophll Fluorescence: Phi2, PhiNPQ, PhiNO, NPQt, qL, LEF
- Relative Chlorophyll: SPAD
- Proton Motive Force: ECSt, vH+, gH+
- Absorbance at: 450, 535, 605, 650, 730, 850, 880, and 940nm.
- Leaf Thickness (in mm), angle, and cardinal direction
- Leaf Temperature and differential from ambient temperature
- Environmental conditions: PAR and ambient temperature/pressure/humidity

Description

Leaf Photosynthesis MultispeQ V1.0 is the classic and by far the most utilized PhotosynQ Protocol.

This protocol delivers a wide range of plant photosynthetic parameters, a full list can be found here (https://photosynq.org/faq/photosynthesis)

If you want to see the exact calculations for each parameter, please see the associated macro called "Leaf Photosynthesis MultispeQ V1.0".

There are two publications about the MultispeQ Beta device covering many of parameters and their comparisons to commercial instruments. While the beta was an older model device, the calculations and comparisons are still true for this protocol and V1.0 device. You can find them at the Royal Society for Open Science (http://rsos.royalsocietypublishing.org/content/3/10/160592), and Plant, Cell & Environmental Journal (http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-3040).

The Leaf Photosynthesis protocol collects many different measurements from a leaf as quickly as possible. It attempts to be both accurate and fast, so that large amounts of data can be collected quickly.

Click on this link to see an example measurement - https://photosynq.org/projects/disease-damage-and-drought-impacts-on-photosynthesis/explore/363687 (https://photosynq.org/projects/disease-damage-and-drought-impacts-on-photosynthesis/explore/363687)

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Connected Macro

Leaf Photosynthesis MultispeQ V1.0 (/macros/leaf-photosynthesis-multispeq-v1-0-8a1c1c6b-9b4f-46ed-9c51-2599eba57772)