

Demonstration of spatiotemporal heterogeneities in botrytis-infected tomato leaf. The infection was induced one day before the experiment. Standard dark-light induction curve at 80 $\mu\text{mol quanta/m}^2\text{s}$.

Observations:

- 1) It can be distinguished between the damage caused by the wounding reaction (visible in Fv/Fm image) and the changes induced by the fungus infection. Whereas Fv/Fm is lowered in the direct vicinity of the wounding lesions only, the effective quantum yield during continuous illumination is lowered over larger parts of the leaf, spreading in the mesophyll along the leaf vein system.
- 2) Along with the lowering of Yield, there is a lowering of qP and a stimulation of qN.
- 3) The observed effects are indicative of a botrytis-induced inhibition of carbon-dioxide fixation in the Calvin-Benson cycle.
- 4) The dark-light induction kinetics of qN in AOIs nr. 1 and nr. 4 are typical for infected (no carbondioxide fixation) and non-infected (normal carbondioxide fixation) areas, respectively, within one and the same leaf.