

1
2
3
4
5

Supplementary Table I A comparison of terminology for chlorophyll fluorescence parameters.

Maxwell and Johnson	Baker; Litthauer et al.	Walz	Photon Systems Instruments	This paper	Formula	Description
F_0	F_0	F_0	F_0	F_0	Measured	Minimum F when Q_A is oxidized and there is no non-photochemical quenching
F_m	F_m	F_m	F_m	F_m	Measured	Maximum F when Q_A is reduced and there is no non-photochemical quenching
F_v	F_v	F_v	F_v	F_v	$F_m - F_0$	F during transition from dark state with open reaction centers to light state with closed reaction centers
F_v/F_m	F_v/F_m	F_v/F_m	QY^{Max}	F_v/F_m	F_v/F_m	Maximum PSII quantum yield after dark adaptation
-	-	-	F_p	F_p	Measured	Peak of F after transfer to actinic light when there is photochemical and non-photochemical quenching
F_t	F_t	F	F_t^{LSS}	F'	Measured	Steady state F after adaptation to actinic light
F_m'	F_m'	F_m'	F_m^{LSS}	F_m'	Measured	Maximum F after adaptation to actinic light when there is non-photochemical quenching
F_0'	F_0'	F_0'	F_0^{LSS}	F_0'	Measured	Steady state minimum F immediately after transfer to dark following adaptation to actinic light
-	Fq'	-	-	-	$F_m' - F'$	Photochemical quenching of fluorescence by

						open PSII centers
qP	Fq'/Fv'	qP	qP^{LSS}	Fq'/Fv'	$(F_m' - F')/(F_m' - F_0')$	Fraction of open PSII reaction centers
-	-	qL	-	-	$qP \times (F_0'/Ft')$	Coefficient of photochemical quenching assuming interconnected PSII antennae
-	-	-	Rfd^{LSS}	Rfd'	$(F_p - F')/(F')$	Empiric parameter for plant vitality
NPQ	NPQ	NPQ	NPQ	NPQ'	$(F_m - F_m')/(F_m')$	Steady state non-photochemical quenching in actinic light
-	-	$Y(II)$	QY^{LSS}	QY'	$(F_m' - F')/(F_m')$	steady-state PSII quantum yield in light

6

7 In the literature (') or (light-steady-state, Lss) represent a consecutive measurement
8 made in actinic light. In this paper (') refers to the fifth measurement (Figure 1) made
9 in actinic light. Maxwell & Johnson (Maxwell and Johnson 2000); Baker (Baker
10 2008); Littauer et al. (Littauer et al. 2015); Walz Chlorophyll Fluorescence PAM
11 (Bavaria, Germany); Photon Systems Instruments (Brno, Czech Republic).

12

13

14

15

16