Supplementary Materials: Combining Sun-Induced Chlorophyll Fluorescence and Photochemical Reflectance Index Improves Diurnal Modeling of Gross Primary Productivity. *Remote Sens.* 2016, *8*, 574

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Table S1. Parameters characterizing the relation between NDVI and f_{APAR}. Given are the axis interception (k) and the slope (m) of the linear fit f_{APAR} = m × $NDVI_G$ + k, the correlation coefficient (r), the number of data points (*N*) and the significance of correlation (*p*-value < 0.05 = significant [(*)]).

DOY	k	m	r	*N*	*p*-Value
127	0.84	0.15	0.33	18	0.183
176	0.92	0.11	0.85	18	0.000 [(*)]
183	0.95	0.04	0.95	18	0.000 [(*)]
253	0.94	0.05	0.72	16	0.002 [(*)]

Table S2. Parameters characterizing the relation between $F_{760\text{-yield}}$ [a.u.] and LUE_{EC} [μmol·s^{-1}·W^{-1}]. Given are the axis interception (b_1) and the slope (a_1) of the linear fit LUE_{EC} = a_1 × $F_{760G\text{-yield}}$ + b_1, the correlation coefficient (r), the number of data points (*N*) and the significance of correlation (*p*-value < 0.05 = significant [(*)]), as well as the root mean square error (RMSE [μmol·s^{-1}·W^{-1}·10^{-3}]) and the coefficient of determination (r^2) of the 3-fold cross validation of the linear model.

DOY	b1	a1	r	*N*	*p*-Value	RMSE	r^2
127	0.09	−0.55	−0.08	18	0.740	0.91	0.06
176	0.10	−2.75	−0.39	18	0.111	1.20	0.52
183	0.32	−49.06	−0.95	18	0.000 [(*)]	0.12	0.90
253	0.14	−11.55	−0.78	16	0.000 [(*)]	0.25	0.44

Table S3. Parameters characterizing the relation between *PRI* and LUE_{EC} [μmol·s^{-1}·W^{-1}]. Given are the axis interception (b_2) and the slope (a_2) of the linear fit LUE_{EC} = a_2 × *PRI* + b_2, the correlation coefficient (r), the number of data points (*N*) and the significance of correlation (*p*-value < 0.05 = significant [(*)]), as well as the root mean square error (RMSE [μmol·s^{-1}·W^{-1}·10^{-3}]) and the coefficient of determination (r^2) of the 3-fold cross validation of the linear model.

DOY	b_2	a_2	r	*N*	*p*-Value	RMSE	r^2
127	−0.90	1.99	0.42	18	0.084	1.20	0.32
176	2.18	−4.38	−0.65	18	0.004 [(*)]	0.83	0.54
183	−3.48	7.32	0.92	18	0.000 [(*)]	0.89	0.76
253	−0.62	1.43	0.46	16	0.079	1.20	0.22

Table S4. Parameters characterizing the relation between $F_{760\text{-yield}}$ × *PRI* and LUE_{EC} [μmol·s^{-1}·W^{-1}]. Given are the axis interception (b_3) and the slope (a_3) of the linear fit LUE_{EC} = a_3 × ($F_{760\text{-yield}}$ × *PRI*) + b_3, the correlation coefficient (r), the number of data points (*N*) and the significance of correlation (*p*-value < 0.05 = significant [(*)]), as well as the root mean square error (RMSE [μmol·s^{-1}·W^{-1}·10^{-3}]) and the coefficient of determination (r^2) of the 3-fold cross validation of the linear model.

DOY	b_3	a_3	r	*N*	*p*-Value	RMSE	r^2
127	0.09	−0.95	−0.07	18	0.773	0.46	0.02
176	0.10	−5.81	−0.40	18	0.105	0.45	0.19
183	0.33	−105.54	−0.95	18	0.000 [(*)]	0.05	0.84
253	0.14	−24.56	−0.78	16	0.000 [(*)]	0.11	0.81

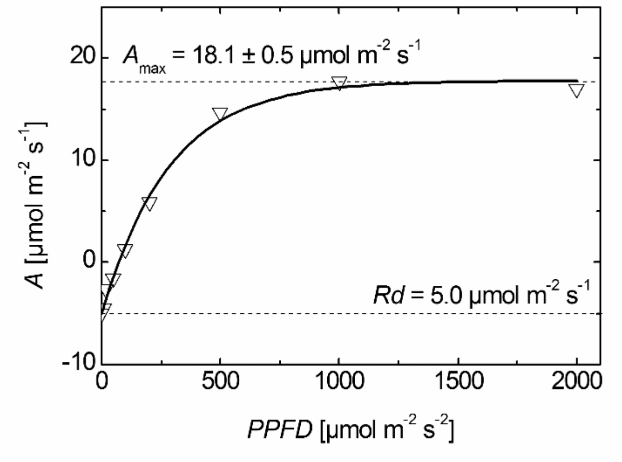

Figure S1. Example of the single exponential fit $f(x) = y_0 + a \cdot (1 - e^{-b \cdot x})$ to derive the maximum net photosynthetic CO_2 uptake rate (A_{max}) from a light responds curve, with *x* being the Photosynthetic Photon Flux Density (*PPFD)*, y_0 representing the dark respiration (*Rd*, [µmol·m^2·s^1]) and *a* representing A_{max} [µmol·m^2·s^1]. The uncertainty of the fitting parameter *a* is treated as an error estimate of the parameter A_{max}.

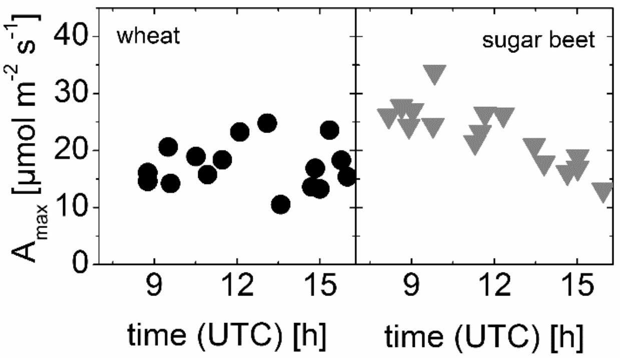

Figure S2. Maximum net photosynthetic CO_2 uptake rate (A_{max}) of wheat and sugar beet. Light responds curves were recorded on singles leaves of different plants on three consecutive days at different times of the day in 2009. On DOY 109 to 111 in total 16 light responds curves of wheat were recorded. On DOY 230–232 in total 16 light responds curves of sugar beet were recorded.