

Induction of a Compensatory Photosynthetic Response Mechanism in Tomato Leaves Upon Short Time Feeding by the Chewing Insect *Spodoptera exigua*

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Table S1. P-values of the paired Student's t test performed between the whole leaflet's AOIs at all different time points for the Quantum Yields: Φ_{PSII} , Φ_{NPQ} , Φ_{NO} .

Quantum Yields	Φ_{PSII}				Φ_{NPQ}				Φ_{NO}			
	Before	15 m	90 m	180 m	Before	15 m	90 m	180 m	Before	15 m	90 m	180 m
Before												
15 m	5.80783E-05				2.45E-08				0.283			
90 m	0.054	0.740			1.52E-05	0.096			0.020	0.017		
180 m	0.294	0.004	2.17E-06		0.858	0.014	2.86E-11		0.191	0.571	1.5E-06	

Table S2. P-values of the paired Student's t test performed between all different zones at all different time points for the Effective quantum yield of PSII photochemistry, Φ_{PSII} .

Φ_{PSII}	Before	15 m rest	15 m surrounding	15 m feeding spot	90 m rest	90 m surrounding	90 m feeding spot	180 m rest	180 m surrounding	180 m feeding spot
15min rest	1.94E-07									
15min surrounding	0.004	0.029								
15min feeding	0.018	0.008	0.011							
90min rest	0.000	0.656	0.452	0.004						
90min surrounding	0.014	0.048	0.889	0.001	0.539					
90min feeding	0.050	0.076	0.011	0.672	0.025	0.022				
180min rest	0.369	0.012	0.240	0.005	3.56E-08	0.092	0.041			
180min surrounding	0.237	0.690	0.213	0.353	0.035	0.002	0.026	0.367		
180min feeding	0.049	0.064	0.003	0.003	0.027	0.015	0.312	0.047	0.027	

Table S3. P-values of the paired Student's t test performed between all different zones at all different time points for the Quantum yield of regulated non photochemical energy loss in PSII, Φ_{NPQ} .

Φ_{NPQ}	Before	15 m rest	15 m surrounding	15 m feeding spot	90 m rest	90 m surrounding	90 m feeding spot	180 m rest	180 m surrounding	180 m feeding spot
15m rest	2.56E-08									
15m surrounding	0.001	0.006								
15m feeding	0.002	0.004	0.637							
90 m rest	0.007	0.461	0.540	0.983						
90 m surrounding	0.002	0.010	0.881	0.849	0.633					
90 m feeding	0.010	0.011	0.982	0.274	0.321	0.326				
180 m rest	0.252	0.012	0.090	0.146	5.52E-10	0.024	0.065			
180 m surrounding	0.047	0.388	0.135	0.138	0.011	0.001	0.177	0.525		
180m feeding	0.052	0.071	0.787	0.266	0.168	0.283	0.285	0.348	0.525	

Table S4. P-values of the paired Student's t test performed between all different zones at all different time points for the Quantum yield of non-regulated energy loss in PSII, Φ_{NO} .

Φ_{NO}	Before	15 m rest	15 m surrounding	15 m feeding spot	90 m rest	90 m surrounding	90 m feeding spot	180 m rest	180 m surrounding	180 m feeding spot
15min rest	0.673352									
15min surrounding	1.37E-05	4.23E-04								
15min feeding	0.005	0.005	0.009							
90min rest	0.537	0.158	0.906	0.012						
90min surrounding	2.38E-04	0.002	0.791	0.014	0.895					
90min feeding	0.023	0.033	0.042	0.489	0.030	0.037				
180min rest	0.187	0.048	0.003	0.009	2.55E-06	0.007	0.028			
180min surrounding	0.002	0.043	0.021	0.009	0.043	0.014	0.031	0.117		
180min feeding	0.037	0.055	0.073	0.270	0.051	0.067	0.095	0.045	0.052	

Table S5. P-values of the paired Student's t test performed between all different zones at all different time points for the Non Photochemical Quenching, NPQ.

NPQ	Before	15 m rest	15 m surrounding	15 m feeding spot	90 m rest	90 m surrounding	90 m feeding spot	180 m rest	180 m surrounding	180 m feeding spot
15min rest	6.71E-07									
15min surrounding	9.70E-05	0.002								
15min feeding	3.63E-04	0.001	0.047							
90min rest	0.024	0.327	0.594	0.094						
90min surrounding	0.000	0.003	0.865	0.088	0.735					
90min feeding	0.004	0.010	0.208	0.364	0.051	0.100				
180min rest	0.293	0.013	0.039	0.017	1.40E-10	0.011	0.011			
180min surrounding	0.007	0.183	0.094	0.014	0.007	0.001	0.031	0.883		
180min feeding	0.022	0.049	0.453	0.297	0.329	0.477	0.205	0.060	0.140	

Table S6. P-values of the paired Student's t test performed between all different zones at all different time points for the Electron Transport Rate, ETR.

ETR	Before	15 m rest	15 m surrounding	15 m feeding spot	90 m rest	90 m surrounding	90 m feeding spot	180 m rest	180 m surrounding	180 m feeding spot
15min rest	3.42E-09									
15min surrounding	0.004	0.029								
15min feeding	0.018	0.008	0.015							
90min rest	3.70E-04	0.658	0.452	0.005						
90min surrounding	0.013	0.048	0.885	0.001	0.549					
90min feeding	0.051	0.075	0.011	0.668	0.025	0.021				
180min rest	0.372	0.012	0.239	0.005	3.77E-08	0.095	0.042			
180min surrounding	0.238	0.694	0.213	0.003	0.036	0.002	0.026	0.373		
180min feeding	0.050	0.063	0.003	0.351	0.027	0.015	0.312	0.048	0.028	

Table S7. P-values of the paired Student's t test performed between all different zones at all different time points for the Efficiency of open PSII reaction centers F_v'/F_m' .

F_v'/F_m'	Before	15 m rest	15 m surrounding	15 m feeding spot	90 m rest	90 m surrounding	90 m feeding spot	180 m rest	180 m surrounding	180 m feeding spot
15min rest	5.45E-05									
15min surrounding	0.456	0.350								
15min feeding	0.064	0.075	0.036							
90min rest	0.012	0.027	0.281	0.155						
90min surrounding	0.112	0.099	0.329	0.004	0.181					
90min feeding	0.068	0.088	0.146	0.969	0.185	0.031				
180min rest	0.101	0.542	0.118	0.129	3.62E-05	0.067	0.175			
180min surrounding	0.790	0.628	0.808	0.013	0.536	0.010	0.054	0.203		
180min feeding	0.064	0.083	0.164	0.924	0.190	0.027	0.575	0.181	0.056	

Table S8. P-values of the paired Student's t test performed between all different zones at all different time points for the Photochemical Quenching, q_P .

q_P	Before	15 m rest	15 m surrounding	15 m feeding spot	90 m rest	90 m surrounding	90 m feeding spot	180 m rest	180 m surrounding	180 m feeding spot
15min rest	5.68E-08									
15min surrounding	0.033	0.131								
15min feeding	0.022	0.005	0.024							
90min rest	0.628	0.409	0.212	0.003						
90min surrounding	0.055	0.197	0.647	0.004	0.099					
90min feeding	0.070	0.095	0.024	0.545	0.003	0.030				
180min rest	0.146	0.019	0.927	0.003	2.93E-09	0.700	0.013			
180min surrounding	0.226	0.770	0.185	0.005	0.012	0.009	0.028	0.090		
180min feeding	0.088	0.067	0.010	0.176	0.002	0.020	0.246	0.011	0.024	