

[10.1071/FP22241](https://doi.org/10.1071/FP22241)

*Functional Plant Biology*

### Supplementary Material

#### **Rice (*Oryza sativa*) alleviates photosynthesis and yield loss by limiting specific leaf weight under low light intensity**

*Shoumik Saha<sup>A</sup>, Shampa Purkayastha<sup>A</sup>, Nimitha K<sup>A</sup>, Sebantee Ganguly<sup>A</sup>, Subhadeep Das<sup>A</sup>, Shamba Ganguly<sup>A</sup>, Nilanjan Sinha Mahapatra<sup>A</sup>, Kriti Bhattacharya<sup>A</sup>, Dibakar Das<sup>A</sup>, Arup K. Saha<sup>A</sup>, Tirthankar Biswas<sup>A</sup>, Prabir K. Bhattacharyya<sup>A</sup>, and Somnath Bhattacharyya<sup>A,\*</sup>*

<sup>A</sup>Department of Genetics and Plant Breeding, Crop Research Unit, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, PIN 741252, West Bengal, India.

\*Correspondence to: Somnath Bhattacharyya Department of Genetics and Plant Breeding, Crop Research Unit, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, Nadia, PIN 741252, West Bengal, India  
Emails: somnathbhat@yahoo.com, bhattacharya.somnath@bckv.edu.in

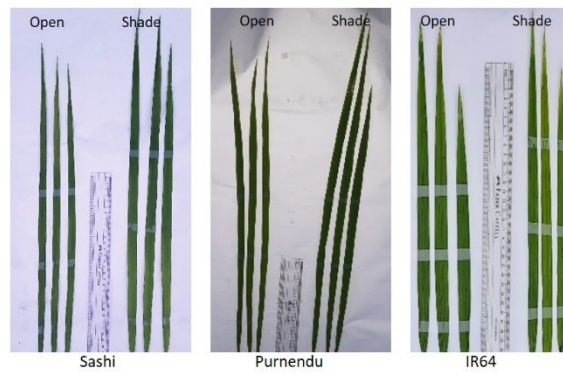
Supporting Data for the manuscript entitled, ‘Rice alleviates photosynthesis and yield loss under low light intensity limiting specific leaf weight’ ID FP22070

Saha et al., 2022

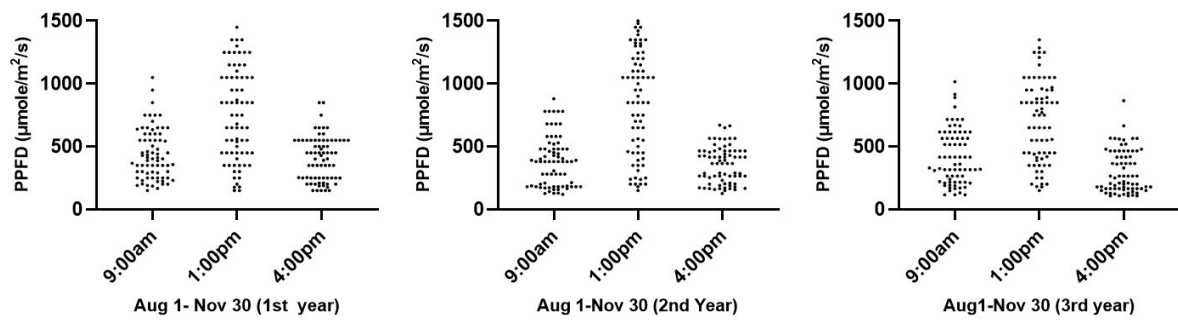
Supplementary Table S1. The mean Yield, A<sub>400</sub>, SLW in twenty-five genotypes in consecutive three years.

Sl	Genotypes	Yield (g/m <sup>2</sup> )-Open			Yield (g/m <sup>2</sup> )-Shade			A400-Open (μmol m <sup>-2</sup> s <sup>-1</sup> )			A400-Shade (μmol m <sup>-2</sup> s <sup>-1</sup> )			SLW (g/m <sup>2</sup> )-Open			SLW (g/m <sup>2</sup> )-Shade		
		Y-1	Y-2	Y3	Y-1	Y-2	Y3	Y-1	Y-2	Y3	Y-1	Y-2	Y3	Y-1	Y-2	Y3	Y-1	Y-2	Y3
1	Bhasamanik	392	361	321	265	256	241	9.3	9.8	9.3	12.84	12.6	13.1	62	90	67	35	50	47
2	Chamarmani	407	345	389	251	232	287	8.1	7.6	8.7	9.74	9.77	10.5	56	68	49	46	48	53
3	Chotogora	423	438	428	262	289	236	10.7	10.5	11.4	13.41	13.9	14.1	64	67	72	50	68	79
4	GB1	567	580	587	346	310	278	10.6	11.1	11.8	11.82	11.5	10.7	56	59	54	44	48	80
5	GB3	541	587	577	356	426	352	12.8	12	11	15.31	15.1	14.2	68	63	82	45	45	55
6	Humbla	505	494	501	389	324	356	10.8	11.1	10.6	13.9	12.8	13.5	55	44	56	41	37	45
7	IR64	322	344	444	203	195	232	9.8	9.3	9.7	11.87	10.8	11.4	82	52	54	46	38	44
8	Khanika	278	179	304	151	109	140	8.3	9.6	8.3	8.9	9.7	9.1	44	40	54	73	62	59
9	Laldhan	435	443	436	345	313	318	7.8	7.3	8.3	11.69	10.2	10.6	98	113	104	72	77	79
10	Mahananda	437	520	431	324	362	332	10.3	9.5	9.1	10.05	10.3	9.9	90	89	87	66	63	63
11	N22 )	384	404	372	278	311	241	14.1	14.1	14.6	15.32	14.7	15.1	58	46	68	48	38	52
12	Neeroja	413	399	416	291	313	306	11.5	11.2	11.6	15.19	15.1	14.8	89	111	86	57	61	52
13	Pantdhan-19	578	540	530	413	437	392	14.4	13.6	13.9	15.43	14.6	15.1	61	61	65	55	51	65
14	Purnendu	584	560	510	448	487	427	8.5	7.5	8.8	11.99	10.7	11.8	62	84	82	36	50	52
15	Rudra	411	397	423	301	281	302	13	11.5	12.2	15.32	14.1	14	76	71	91	52	51	60
16	Sambamasuri	424	407	380	267	281	232	8.6	7.9	9.1	9.96	9.6	10.1	76	57	58	63	56	49
17	Santhi	478	426	430	341	318	330	9.9	9.4	10.9	10.96	10.2	10.9	59	96	67	39	51	46
18	Sarathi	254	461	359	137	128	144	9	7.1	6.3	8.83	7.2	7.2	45	78	76	50	68	64
19	Sarjoo-52	465	458	554	259	320	278	9.5	8.5	9.2	9.19	8.5	9.2	62	62	46	60	63	62
20	Sashi	520	430	493	416	327	397	9.1	8.8	8.9	11.36	10.9	10.7	59	59	60	45	49	38
21	Shatabdi	348	469	327	170	216	172	12.8	12.1	12.4	12.86	11.87	12.5	53	50	38	42	41	33
22	Swarna	689	523	492	320	334	384	7.2	6.8	6.2	10.16	9.87	10	70	55	58	63	54	49
23	Swarnaprabh a	561	592	569	421	465	432	13.4	14.2	14.5	15.85	15.9	15.7	50	70	73	41	52	57
24	Vaisak	527	580	488	301	330	313	13	12.2	12.7	12.1	12.3	12.4	58	53	62	51	60	76
25	VLD-209	573	477	570	342	349	330	7.3	7.4	7.2	8.3	8.7	8.5	52	56	60	61	59	54

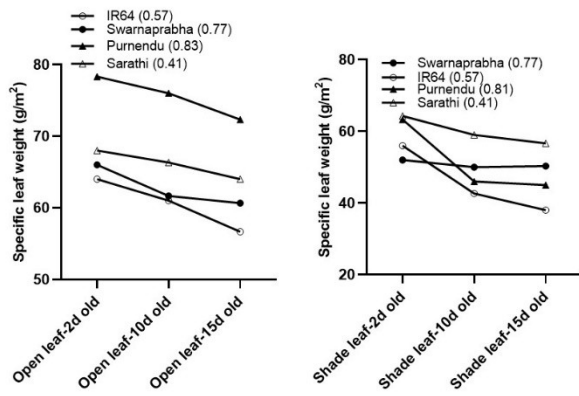
Supplementary Figure S1. Field view of the experiment site and comparison of flag-leaf shape between open and shade grown conditions.



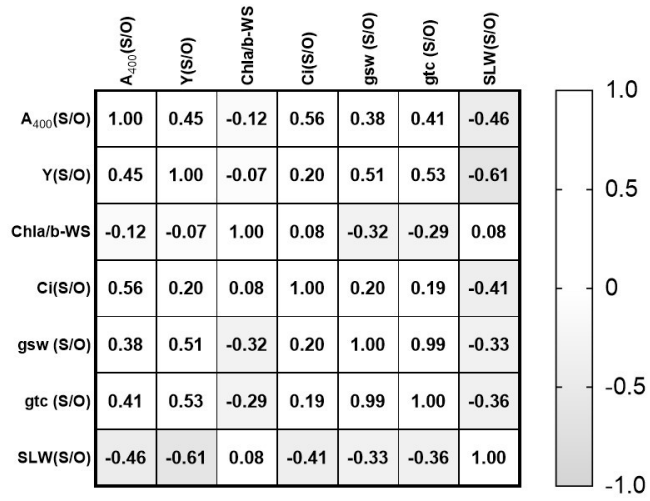
Supplementary Figure S2. PPFD during the growing period (Aug 1 to Nov 30) recorded at 9:00am, 1:00pm and 4:00 pm daily



Supplementary Figure S3. Trend in SLW reduction in open and shade grown flag leaves at 2<sup>nd</sup>, 10<sup>th</sup> and 15<sup>th</sup> day after heading.



Supplementary Figure S4. Correlation coefficient among the shade by open ratio of yield and other physiological parameters.



Supplementary Figure S5. Regression analysis between  $A_{400}$  and leaf Nitrogen (N) concentration for the open and shade grown twenty-five plants. Number represents the genotypic name as described in Supplementary Table 1.

