10.1071/FP17054_AC

Supplementary Material: *Functional Plant Biology*, 2017, 44(9), 907–916.

Supplementary Material

Improvement of submergence tolerance in rice through efficient application of potassium under submergence-prone rainfed ecology of Indo-Gangetic Plain

Sharad Kumar Dwivedi[A,B], *Santosh Kumar*[A], *Narayan Bhakta*[A], *Shishir Kant Singh*[A], *Karnena Koteswara Rao*[A], *Janki Sharan Mishra*[A] *and Anil Kumar Singh*[A]

[A]IndianCouncil of Agricultural Research – Research Complex for Eastern Region, Patna, Bihar- 800 014, India.

[B]Corresponding author. Email: sharad.dwivedi9736@gmail.com

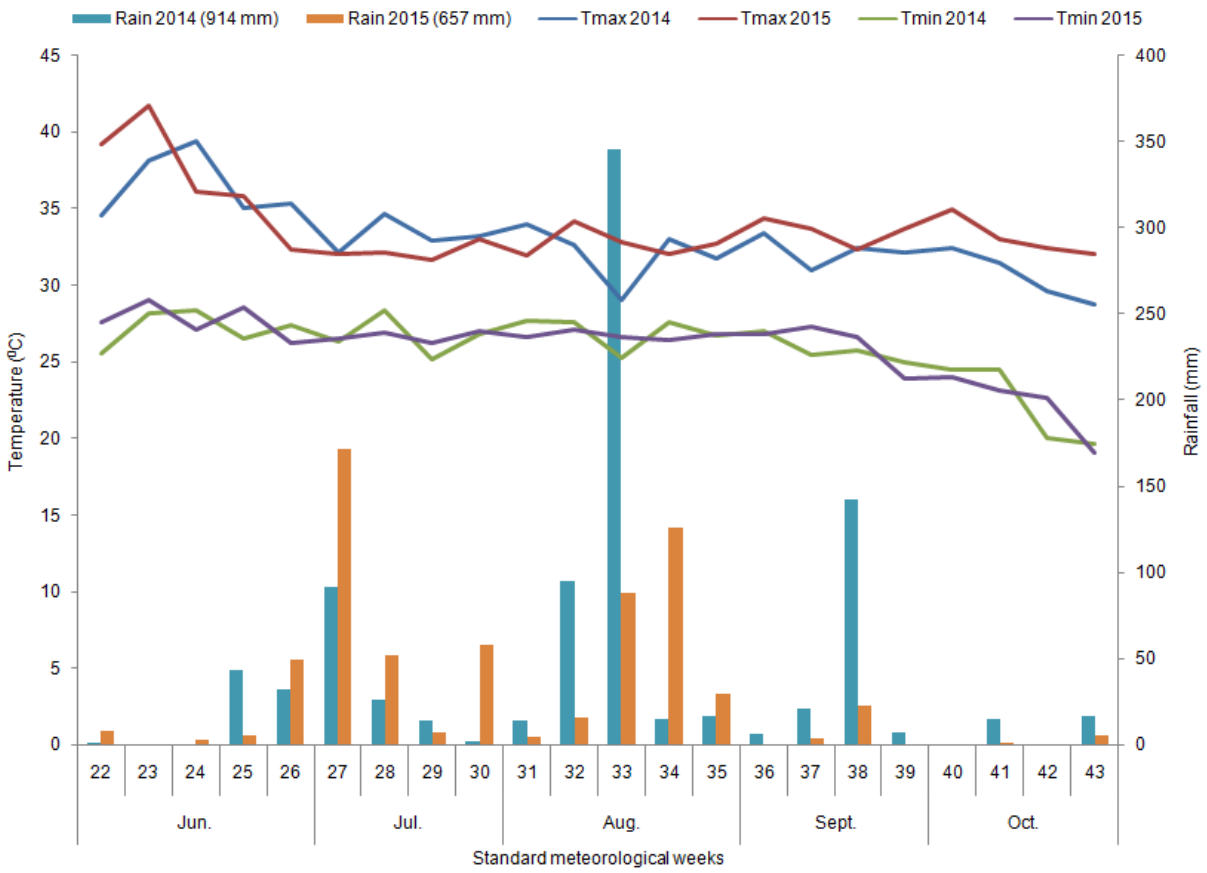

Fig. S1. Daily maximum and minimum temperatures, maximum and minimum relative humidity, daily rainfall during Kharif season June to October.

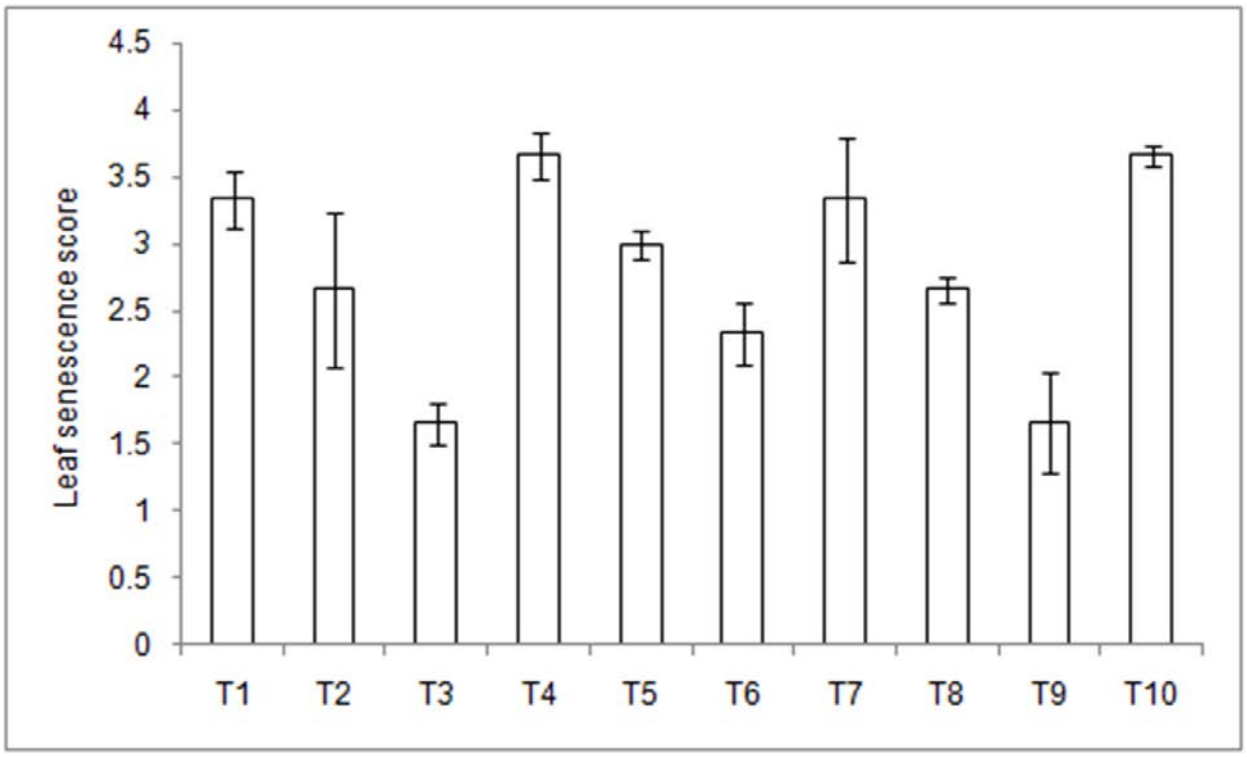

Fig. S2. Effect of potassium application on Leaf senescence of Swarna Sub1 after 16 days of submergence. **T1** – 20 kg K_2O ha^{-1} (basal), **T2** – 30 kg K_2O ha^{-1} (basal), ***T3** – 40 kg K_2O ha^{-1} (basal, Farmer practice), **T4** – 10 kg K_2O ha^{-1} (basal) + 10 kg K_2O ha^{-1} top dressing at PI stage, **T5** – 15 kg K_2O ha^{-1} (basal) + 15 kg K_2O ha^{-1} top dressing at PI stage, **T6** – 20 kg K_2O ha^{-1} (basal) + 20 kg K_2O ha^{-1} top dressing at PI stage, **T7** – 20 kg K_2O ha^{-1} (basal) + One foliar spray @ 0.5 % K at PI stage, **T8** – 30 kg K_2O ha^{-1} (basal) + One foliar spray @ 0.5 % K at PI stage, **T9** – 40 kg K_2O ha^{-1} (basal) + One foliar spray @ 0.5 % K at PI stage, **T10** – Control without K.

Table S1. Spatio-temporal variation in different physico-chemical characteristics of pond-water during submergence of rice crop

	1st day (morning)				1st day (evening)				6th day (morning)			
	0.40 cm	**0.60 cm**	**0.80 cm**	**1.00 cm**	**0.40 cm**	**0.60 cm**	**0.80 cm**	**1.00 cm**	**0.40 cm**	**0.60 cm**	**0.80 cm**	**1.00 cm**
Temp	30.32	30.29	30.25	30.3	32.10	32.02	32.08	32.0	31.86	31.68	31.50	31.41
pH	6.35	6.40	6.44	6.5	7.00	7.06	7.07	7.0	6.42	6.45	6.45	6.44
pH (mv)	39.00	36.00	34.00	32.0	40.00	38.00	37.00	33.0	35.00	34.0	33.0	34.00
ORPmv	323.00	331.00	341.00	349.0	359.00	336.00	333.00	355.0	362.0	357.0	381.0	389.0
mS/Cm	0.280	0.588	0.589	0.588	0.587	0.588	0.584	0.585	0.57	0.582	0.582	0.58
NTU	7.31	14.20	36.10	62.4	18.70	23.30	20.90	53.8	13.00	9.84	10.9	10.90
mg/LDO	21.29	15.79	14.07	13.1	13.02	17.61	13.39	12.5	15.22	12.35	11.43	11.40
%Do	284.10	210.90	187.80	175	178.20	240.80	183.30	170	207.50	168.1	155.2	155.1
g/l TDS	0.19	0.38	0.38	0.38	0.38	0.38	0.37	0.37	0.37	0.373	0.372	0.37
	6th day (evening)				**11th (morning)**				**11th (evening)**			
	0.40 cm	**0.60 cm**	**0.80 cm**	**1.00 cm**	**0.40 cm**	**0.60 cm**	**0.80 cm**	**1.00 cm**	**0.40 cm**	**0.60 cm**	**0.80 cm**	**1.00 cm**
Temp	32.64	33.28	33.32	33.4	33.5	33.3	33.29	33.2	33.4	33.6	33.54	33.52
pH	6.18	6.29	6.36	6.5	5.86	5.88	5.9	5.9	5.93	6.13	6.14	6.15
pH (mv)	50.00	43.00	39.00	30.0	69.0	68.0	67.0	67.0	65.0	53.0	53.0	52.0
ORPmv	317.00	353.00	365.00	376.0	424	423	421	419	305	410	411	413
mS/Cm	0.61	0.6	0.58	0.577	0.08	0.58	0.594	0.594	0.0	0.6	0.6	0.6
NTU	16.70	16.8	14.20	11.5	14.0	3.2	3.2	3.4	11.0	6.2	7.5	10.0
mg/LDO	22.44	13.2	11.99	10.94	14.2	13.8	13.1	12.7	13.4	11.7	11.1	11.7
%Do	309.50	182.5	166.5	152.4	197	192	182.7	176	186	163	156	163
g/l TDS	0.39	0.37	0.374	0.369	0.06	0.37	0.38	0.38	0.00	0.38	0.38	0.38
	16th (morning)				**16th (evening)**							
	0.40 cm	**0.60 cm**	**0.80 cm**	**1.00 cm**	**0.40 cm**	**0.60 cm**	**0.80 cm**	**1.00 cm**				
Temp	34.9	33.1	32.8	32.86	32.9	33.7	33.62	33.54				
pH	4.7	5.95	6.01	6.02	7.86	6.8	6.78	6.79				
pH (mv)	141	64	60	59	-52.0	12.0	13.0	13.0				
ORPmv	53	387	394	396	159	319	333	348				
mS/Cm	0.0	0.59	0.589	0.588	0.24	0.59	0.587	0.586				
NTU	34.3	20.8	24.6	24.3	11.3	11	8.02	6.39				
mg/LDO	16.4	12.3	11.86	10.94	20.9	16.1	14.74	13.94				
%Do	231.8	170.0	164.0	151.3	289	225	206	194.6				
g/l TDS	0.00	0.38	0.377	0.377	0.14	0.38	0.376	0.375				