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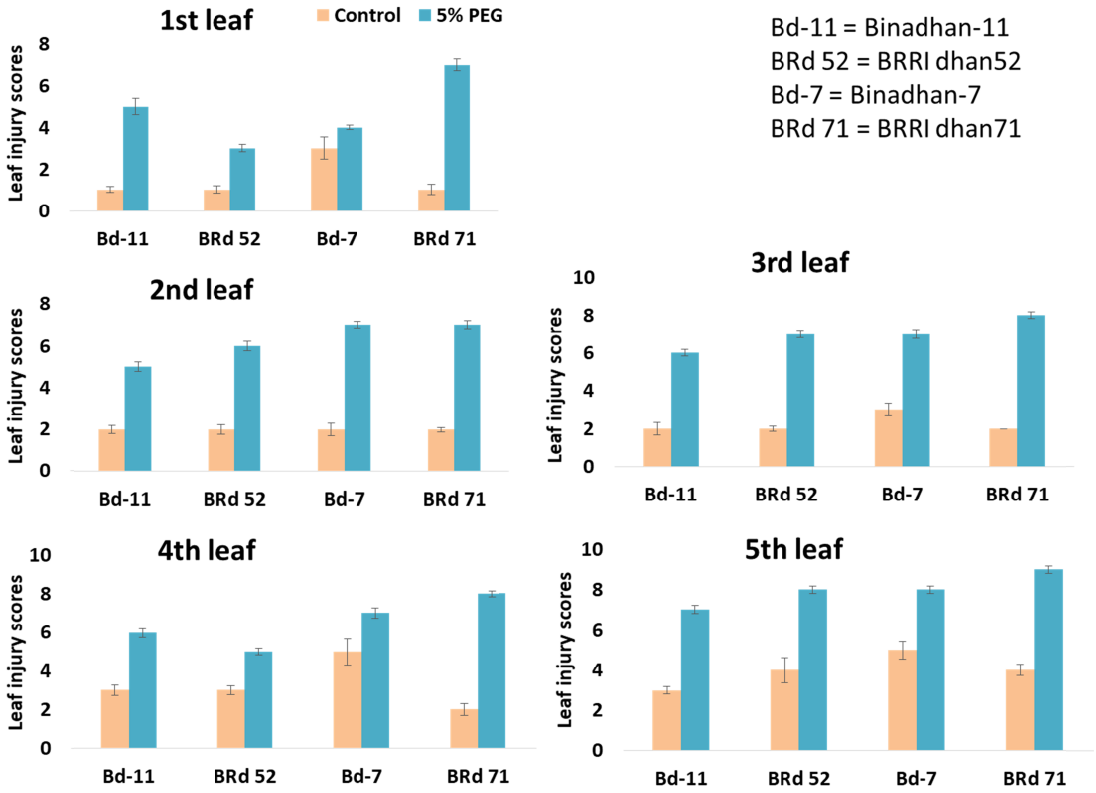
Supplementary materials

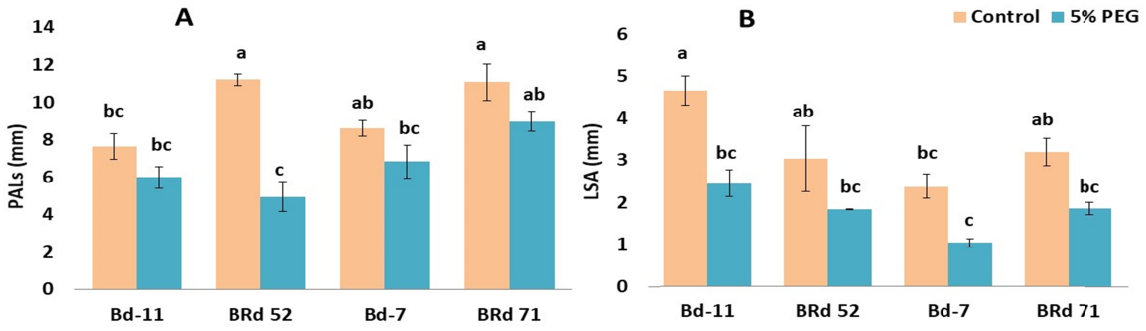
Supplementary Table S1. Analysis of variance for root, root hairs and biochemical traits of four rice varieties (Binadhan-11, BRRI dhan 52, Binadhan-7, BRRI dhan 71) under 0% (control) and 5% polyethylene glycol treatments.

Traits	df			F value			*P* value		
	Treatment (T)	Variety (V)	T × V	Treatment (T)	Variety (V)	T × V	Treatment (T)	Variety (V)	T × V
TRt (no.)	1	3	3	1.02	1.46	4.61	0.327	0.264	0.016
MALPr1 (cm)	1	3	3	1.84	7.14	5.58	0.194	0.003	0.008
MALPr2 (cm)	1	3	3	0.26	2.38	3.63	0.615	0.108	0.036
MALPr3 (cm)	1	3	3	8.07	2.03	3.72	0.012	0.150	0.033
MALPr4 (cm)	1	3	3	2.10	3.56	0.15	0.167	0.038	0.928
MALPr5 (cm)	1	3	3	0.17	3.73	0.27	0.685	0.033	0.849
MAD (mm)	1	3	3	2.66	5.75	0.86	0.123	0.007	0.481
PALs (mm)	1	3	3	37.45	7.96	5.26	<0.001	0.002	0.010
PADs (mm)	1	3	3	6.50	9.06	1.27	0.021	<0.001	0.318
NPAs (no./mm)	1	3	3	5.31	4.39	1.10	0.035	0.020	0.377
PAL_L (mm)	1	3	3	6.21	1.05	1.32	0.024	0.396	0.302
LSA (mm)	1	3	3	35.19	8.88	0.81	<0.001	<0.001	0.508
DSA (mm)	1	3	3	0.21	5.19	16.07	0.653	0.011	<0.001
NSA (no./mm)	1	3	3	0.32	17.12	1.50	0.578	<0.001	0.253
RHL_{MA} (μ)	1	3	3	3.05	6.70	5.33	0.100	0.004	0.010
DRH_{MA} (no./mm)	1	3	3	10.28	5.93	6.20	0.006	0.006	0.005
RHL_{PA}(μ)	1	3	3	3.16	38.87	174.30	0.095	<0.001	<0.001
RHD_{PA}(μ)	1	3	3	4.40	17.65	4.66	0.052	<0.001	0.016
DRH_{PA} (no./mm)	1	3	3	5.24	47.91	5.42	0.036	<0.001	0.009
SDW (g)	1	3	3	3.48	10.08	3.69	0.081	0.001	0.034
H_2O_2 (μmole g^{-1} fresh weight)	1	3	3	47.03	34.77	12.11	<0.001	<0.001	<0.001
MDA (nmole g^{-1} fresh weight)	1	3	3	351.50	16.52	14.89	<0.001	<0.001	<0.001

*** df-** Degrees of freedom, ***P*-** Probability of statistical significance, **T × V-** Treatment variety interaction, **TRt-** total number of roots per main tiller, **MAL-** main root axis length, **Pr-** phytomer, **MAD-** main root axis diameter, **PALs, PADs, NPAs –** length, diameter and number of S-type first order laterals, **PAL_L-** length of L-type first order laterals, **LSA, DSA –** length and diameter of second order laterals, **RHL_{MA}, DRH_{MA}-** length and density of root hair at main axis, **RHL_{PA}, RHD_{PA}, DRH_{PA}-** length, diameter and density of root hair at first order laterals, **SDW** = shoot dry weight, **H_2O_2** = hydrogen peroxide, **MDA** = m alondialdehyde.

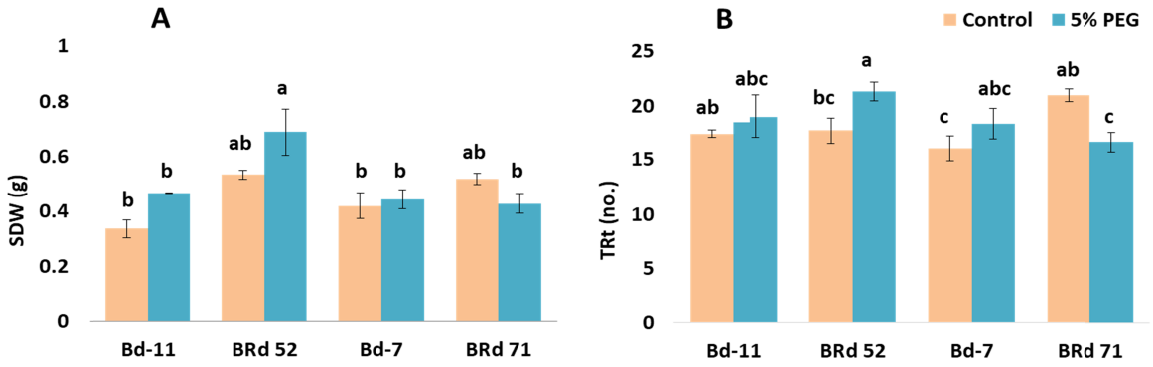


Supplementary Figure S1. Median values of leaf injury scores of top five leaves per plant (1st leaf is the youngest and 5th leaf is the oldest leaf chronologically) of four rice varieties under 0% (control) and 5% polyethylene glycol treatments. Vertical bars indicate standard error of mean.

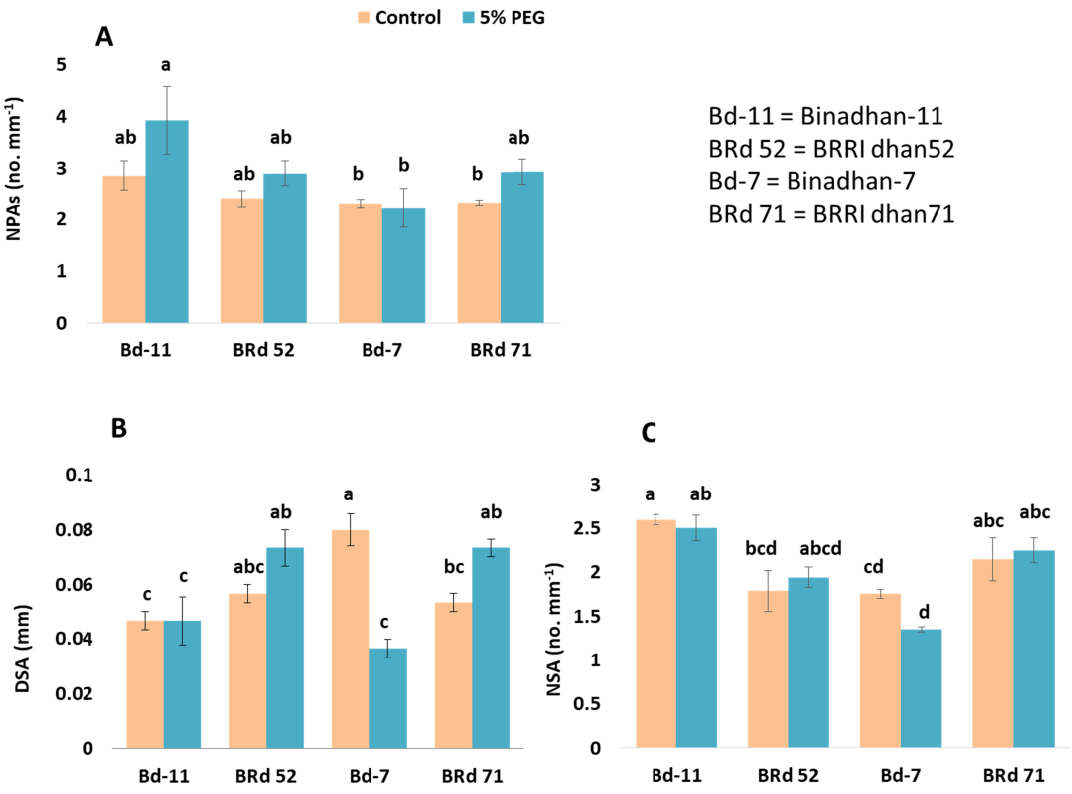


Supplementary Figure S2. Treatment effect, varietal variation and variety × treatment interaction for length of S-type first order lateral root (PALs) (A), and length of second order lateral root (LSA) (B) in four rice varieties (Bd-11 = Binadhan-11, BRd 52 = BRRI dhan 52, Bd-7 = Binadhan-7, BRd 71 = BRRI dhan 71) under 0% (control) and 5% polyethylene glycol

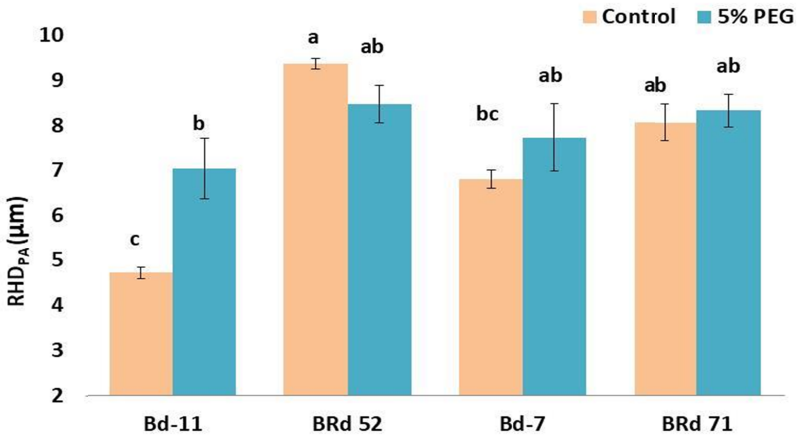
treatments. Vertical bars indicate standard error of mean. Different letters indicate statistically significant difference.



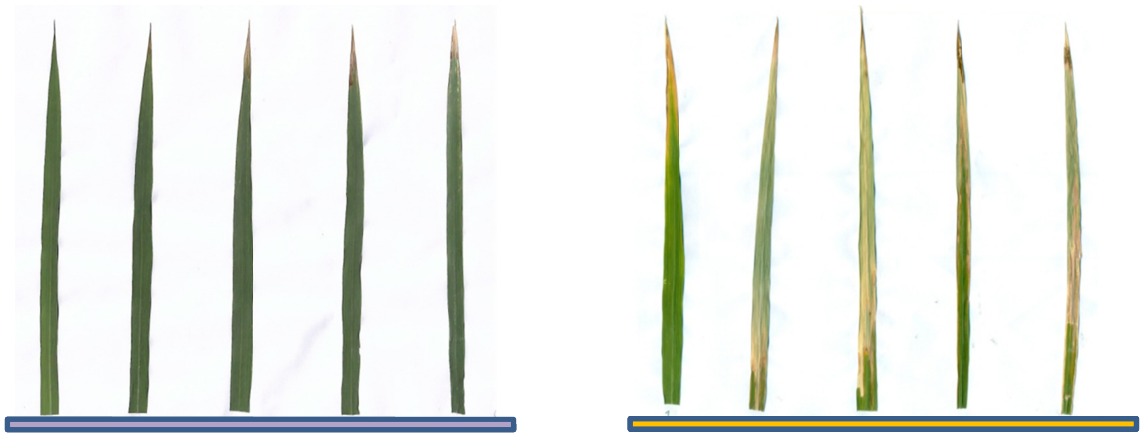
Supplementary Figure S3. Varietal variation and variety × treatment interaction for shoot dry weight (SDW) (**A**), and total number of roots per main tiller (TRt) (**B**) in four rice varieties (Bd-11 = Binadhan-11, BRd 52 = BRRI dhan 52, Bd-7 = Binadhan-7, BRd 71 = BRRI dhan 71) under 0% (control) and 5% polyethylene glycol treatments. Vertical bars indicate standard error of mean. Different letters indicate statistically significant difference.



Supplementary Figure S4. Treatment effect, varietal variation and variety × treatment interaction for number of S-type first order lateral root (NPAs) (**A**), diameter of second order lateral root (DSA) (**B**), and number of second order lateral root (NSA) (**C**) in four rice varieties (Bd-11 = Binadhan-11, BRd 52 = BRRI dhan 52, Bd-7 = Binadhan-7, BRd 71 = BRRI dhan 71) under 0% (control) and 5% polyethylene glycol treatments. Vertical bars indicate standard error of mean. Different letters indicate statistically significant difference.

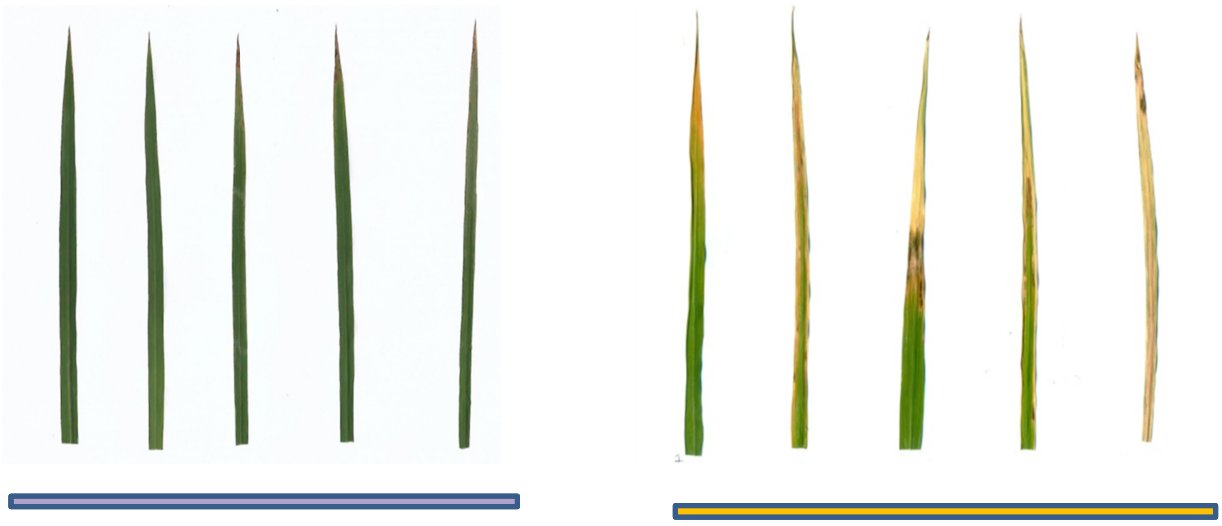


Supplementary Figure S5. Varietal variation and variety × treatment interaction for root hair diameter (µm) at the first order lateral root (RHD_{PA}) in four rice varieties (Bd-11 = Binadhan-11, BRd 52 = BRRI dhan 52, Bd-7 = Binadhan-7, BRd 71 = BRRI dhan 71) under 0% (control) and 5% polyethylene glycol treatments. Vertical bars indicate standard error of mean. Different letters indicate statistically significant difference



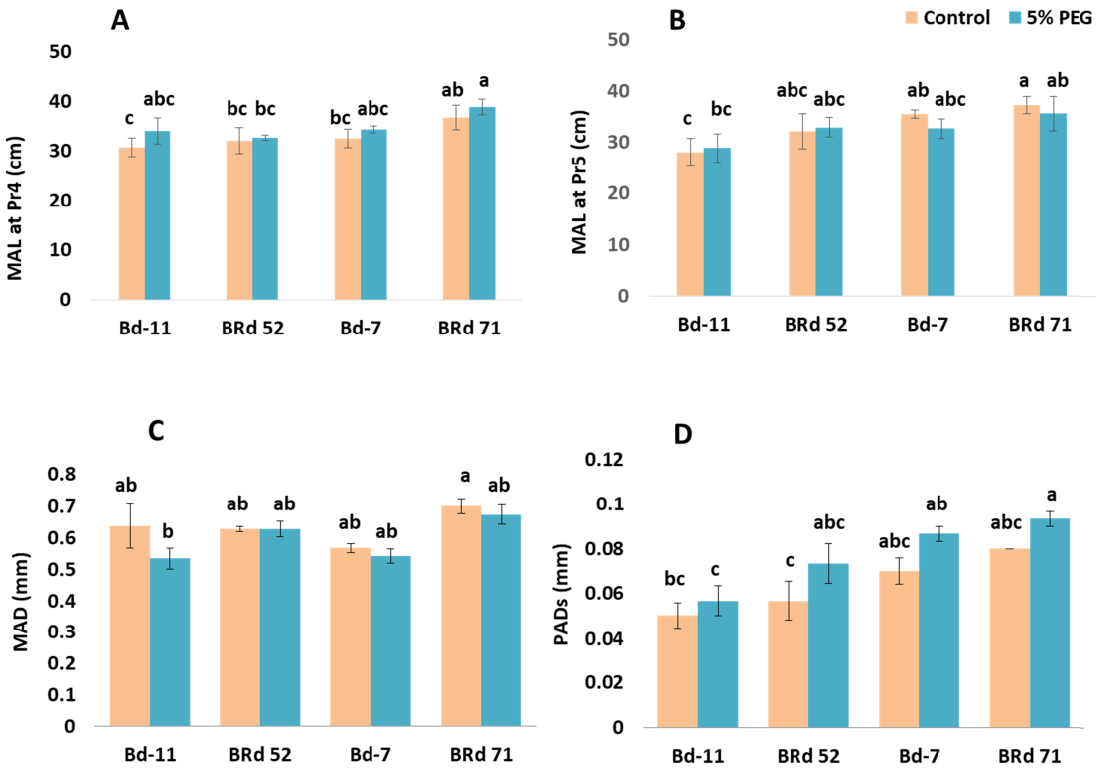
A **B**

Supplementary Figure S6. Leaf injury comparisons of BRRI dhan 52 under 0% (control) and 5% polyethylene glycol treatments. Youngest to oldest leaves (from 1 to 5) under control (**A**), and youngest to oldest leaves under 5% PEG treatment (**B**).



A **B**

Supplementary Figure S7. Leaf injury comparisons of Binadhan-7 under 0% (control) and 5% polyethylene glycol treatments. Youngest to oldest leaves (from 1 to 5) under control (**A**), and youngest to oldest leaves under 5% PEG treatment (**B**).



Supplementary Figure S8. Treatment effect andvarietal variation for main root axis length at phytomer 4 (MALPr4) (**A**), main root axis length at phytomer 5 (MALPr5) (**B**), diameter of main root axis (MAD) (**C**), and diameter of S-type first order lateral root (PADs) (**D**) in four rice varieties (Bd-11 = Binadhan-11, BRd 52 = BRRI dhan 52, Bd-7 = Binadhan-7, BRd 71 = BRRI dhan 71) under 0% (control) and 5% polyethylene glycol treatments. Vertical bars indicate standard error of mean. Different letters indicate statistically significant difference.