Table S1: Comparative phyto-sociological data of uninvaded (UR) and invaded (IR) ridge vegetation of Rice fields.

Species	Family	Habit, status and use	UR						IR					
			D	F	A	A/F	TBA	IVI	D	F	A	A/F	TBA	IVI
Ageratina adenophora R King & H. Rob.	Asteraceae	H, I, Med	-	-	-	-	-	-	202.33	100.00	136.22	2.02	20.26	157.27
Ageratum houstonianum Mill.	Asteraceae	H, I, Med	6.11	100.00	6.11	0.06	0.40	20.75	8.11	88.89	8.56	0.10	0.44	13.35
Arthraxon nudus (Steud.) Hochst.	Poacaeae	H, Fo	-	-	-	-	-	-	11.22	77.78	5.83	0.16	0.01	10.52
Barleria cristata L.	Acanthaceae	H, Med	-	-	-	-	-	-	1.67	22.22	2.22	0.04	0.03	3.19
Bidens pilosa L.	Asteraceae	H, I, Fo, Med	1.89	55.56	3.17	0.06	0.40	11.94	0.22	11.11	1.11	0.02	0.07	1.36
Boehmeria diffusa Wedd.	Urticaeae	H, N, Med	6.00	100.00	6.00	0.06	0.91	27.01	6.00	77.78	9.61	0.15	0.81	11.14
Bothrichloa pertusa A. Camus	Poacaeae	H, N, Fo	50.22	100.00	50.22	0.50	0.61	54.86	6.67	11.11	11.11	0.60	0.04	4.96
Commelina benghalensis L.	Commelinaceae	H, N,Fo	-	-	-	-	-	-	0.56	11.11	1.67	0.05	0.02	1.51
Crysopogon gryllus (L.) Trin.	Poacaeae	H, N, Fo	44.11	100.00	44.11	0.44	0.86	53.34	-	-	-	-	-	-
Cynodon dactylon (L.) Pers.	Poacaeae	H, N, Med, Fo	-	-	-	-	-	-	4.00	11.11	3.33	0.10	0.01	1.70
Cyperus iria L.	Cyperaceae	H, I, Fo	4.67	77.78	6.89	0.14	0.07	12.79	3.89	55.56	3.61	0.24	0.03	4.61
Cyperus rotundus L.	Cyperaceae	H, N, Fo	9.22	66.67	13.83	0.21	0.05	14.62	5.89	77.78	5.33	0.19	0.03	10.09
Dioscorea sp.	Diooscoreaceae	C, N, F, Fo	3.11	100.00	3.11	0.03	4.63	64.29	-	-	-	-	-	-
Echinochloa colona (L.) Link	Poacaeae	H, I, Fo	-	-	-	-	-	-	4.22	66.67	4.22	0.04	0.49	5.63
Equisetum sp.	Equisetaceae	H, N, Med	5.33	88.89	5.83	0.07	0.48	19.57	7.00	66.67	7.00	0.07	0.63	10.89
Euphorbia hirta L.	Euphorbiaceae	H, I, Med	-	-	-	-	-	-	1.22	22.22	1.83	0.03	0.15	3.38
Fimbristylis dichotoma (L.) Vahl	Cyperaceae	H, N, Fo	5.44	55.56	10.17	0.21	0.15	12.00	1.11	77.78	1.78	0.05	0.03	4.66
Gonostegia hirta Miq.	Urticaeae	H, N, Fo	-	-	-	-	-	-	1.67	44.44	6.11	0.22	1.95	16.56
Persicaria glabra (Willd.) M. Gómez	Polygonaceae	H, N, Fo	-	-	-	-	-	-	9.00	66.67	9.61	0.11	0.24	9.20
Plantago erosa Wall.	Plantaginaceae	H, N, Fo	-	-	-	-	-	-	2.89	88.89	4.44	0.04	0.28	11.02
Ranunculus laetus Wall. ex Hook.f. & Thoms.	Ranunculaceae	H, E	-	-	-	-	-	-	6.00	33.33	3.33	0.06	0.03	6.48
Reinwardtia indica Dumort.	Linaceae	H, N, Fo	-	-	-	-	-	-	4.44	33.33	5.06	0.07	0.44	7.96
Saccharum bengalense Retz.	Poaceae	H, N	-	-	-	-	-	-	1.11	11.11	1.11	0.10	0.02	1.70
Setaria viridis (L.) P. Beauv.	Poaceae	H, N, Fo	-	-	-	-	-	-	1.67	33.33	2.11	0.15	0.02	2.83
Smilax sp.	Smilacaceae	C, N, Fo	2.33	55.56	3.67	0.06	0.08	8.82	-	-	-	-	-	-
Total			**138.44**				**8.64**	**300.00**	**88.56**				**5.75**	**142.73**

Where, UR-uninvaded ridge, IR-invaded ridge, D-density, TBA-total basal area, F-frequency, A-abundance, A/F-abundance to frequency, IVI-importance value index, H-herb, C-climber, N-native, I-invasive, F-food, Fo-fodder, Med-medicinal.

Table S2: Comparative phyto-sociological data of uninvaded (UR) and invaded (IR) ridge vegetation of Soybean fields.

Species	Family	Habit, status and use	UR						IR					
			Density	Frequency	Abundance	A/F	TBA	IVI	Density	Frequency	Abundance	A/F	TBA	IVI
Ammannia sp.	Lythraceae	C, N, F, Fo	-	-	-	-	-	-	0.80	20.00	1.33	0.02	0.01	2.64
Ageratina adenophora R King & H. Rob.	Asteraceae	H, I, Med	-	-	-	-	-	-	154.07	100.00	154.07	1.54	23.43	170.66
Ageratum houstonianum Mill.	Asteraceae	H, I, Med	3.73	69.84	5.06	0.13	0.26	16.31	2.87	53.33	4.53	0.10	0.19	10.18
Arthraxon nudus (Steud.) Hochst.	Poacaeae	H, Fo	-	-	-	-	-	-	0.73	20.00	2.50	0.10	0.00	3.21
Barleria cristata L.	Acanthaceae	H, Med	0.94	33.33	1.83	0.69	0.12	7.49	1.60	66.67	2.67	0.05	0.18	11.86
Bidens pilosa L.	Asteraceae	H, I, Fo, Med	1.37	53.17	2.53	0.05	0.32	14.15	4.93	66.67	7.42	0.12	0.75	14.50
Boehmeria diffusa Wedd.	Urticaeae	H, N, Med	3.74	47.62	8.25	0.13	0.61	18.20	1.27	13.33	3.17	0.08	0.19	3.09
Bothrichloa pertusa A. Camus.	Poacaeae	H, N, Fo	36.85	73.81	45.44	0.37	0.46	32.58	2.53	26.67	10.89	0.51	0.03	6.17
Commelina benghalensis L.	Commelinaceae	H, Fo	0.17	5.56	1.00	0.05	0.01	1.18	-	-	-	-	-	-
Crysopogon gryllus (L.) Trin.	Poacaeae	H, N, Fo	165.44	100.00	165.44	0.91	3.43	138.95	0.93	26.67	1.17	0.01	0.01	3.41
Cyanotis barbata D. Don	Commelinaceae	H, N,	2.43	46.03	3.50	0.15	0.13	9.61	0.80	20.00	1.33	0.02	0.09	2.92
Cynodon dactylon (L.) Pers.	Poacaeae	H, N, Fo	-	-	-	-	-	-	1.93	33.33	4.92	0.19	0.02	6.69
Cyperus rotundus L.	Cyperaceae	H, I, Fo	3.34	57.94	6.53	0.27	0.06	11.65	2.07	40.00	4.58	0.16	0.19	7.03
Digitaria ciliaris (Retz.) Koeler	Poacaeae	H, N, Fo	8.95	51.59	14.00	0.25	0.05	12.08	2.87	46.67	5.58	0.13	0.08	8.04
Euphorbia hirta L.	Euphorbiaceae	H, I	0.30	20.63	1.00	0.07	0.01	3.27	0.67	26.67	0.83	0.01	0.02	3.31
Gonostegia hirta Miq.	Urticaeae	H, N, Fo	-	-	-	-	-	-	1.27	20.00	2.67	0.07	1.44	8.69
Persicaria glabra (Willd.) M.Gómez	Polygonaceae	H, N, Fo	1.37	30.16	3.08	0.05	1.21	19.55	1.73	13.33	4.33	0.11	8.10	17.85
Reinwardtia indica Dumort.	Linaceae	H, N, Fo	1.75	30.95	3.78	0.08	0.17	8.51	2.40	26.67	6.00	0.15	0.08	6.35
Saccharum bengalense Retz.	Poacaeae	H, N, Fo	1.33	11.11	4.00	0.10	0.04	2.59	3.60	26.67	10.67	0.41	0.34	7.24
Setaria viridis (L.) P. Beauv.	Poacaeae	H, N, Fo	2.62	14.29	6.11	0.14	0.04	3.88	1.93	33.33	4.06	0.09	0.05	6.15
Total			234.33				6.91	300.00	34.93				11.77	300.00

Where, UR-uninvaded ridge, IR-invaded ridge, D-density, TBA-total basal area, F-frequency, A-abundance, A/F-abundance to frequency, IVI-importance value index, H-herb, C-climber, N-native, E-exotic, F-food, Fo-fodder, Med-medicinal.

Table S3: Uncertainty factor ($^{F}U_{meas}$) for morphological, yield and yield related measurements.

Rice

Parameters	Treatment UR	Treatment IR	0-1 m UR	0-1 m IR	2-3m UR	2-3m IR	4-5m UR	4-5m IR
SL	1.10	1.38	1.07	1.19	1.11	1.12	1.08	1.68
RL	1.39	1.37	1.33	1.31	1.41	1.41	1.42	1.38
SD	1.17	1.23	1.16	1.19	1.19	1.21	1.10	1.18
PL	1.14	1.16	1.15	1.15	1.16	1.16	1.09	1.12
GN	1.47	1.53	1.39	1.45	1.53	1.57	1.39	1.42
SY	1.38	1.52	1.28	1.33	1.47	1.60	1.27	1.36
RY	2.01	2.14	2.29	2.10	2.07	1.89	1.58	2.37
GY	1.65	1.83	1.87	2.05	1.49	1.59	1.35	1.34
SPP	1.24	1.37	1.21	1.27	1.26	1.35	1.24	1.24
SRL	2.04	1.91	2.12	2.02	2.21	1.68	1.81	1.98
HI	1.34	1.30	1.15	1.31	1.59	1.38	1.19	1.23
R:S	1.86	1.94	1.92	1.88	1.79	1.94	1.75	1.85
TD	1.17	1.31	1.17	1.23	1.17	1.37	1.17	1.27
HD	1.21	1.29	1.22	1.20	1.21	1.30	1.21	1.31
TPH	1.15	1.16	1.17	1.23	1.14	1.13	1.14	1.13

Soybean

Parameters	Treatment UR	Treatment IR	0-1 m UR	0-1 m IR	2-3m UR	2-3m IR	4-5m UR	4-5m IR
SL	1.49	1.51	1.17	1.22	1.12	1.15	1.06	1.15
RL	1.12	1.10	1.09	1.06	1.09	1.09	1.08	1.07
SD	1.33	1.32	1.24	1.23	1.16	1.19	1.20	1.12
PN	1.36	1.25	1.15	1.09	1.15	1.13	1.13	1.03
GN	1.23	1.34	1.10	1.21	1.19	1.16	1.10	1.16
SY	1.57	1.59	1.20	1.40	1.35	1.27	1.11	1.22
RY	1.66	1.79	1.19	1.23	1.32	1.40	1.14	1.26
GY	1.31	1.43	1.12	1.25	1.19	1.20	1.14	1.18
PY	1.45	1.85	1.30	1.98	1.57	1.55	1.48	1.63
SRL	1.55	1.70	1.22	1.20	1.32	1.43	1.13	1.25
HI	1.17	1.39	1.11	1.37	1.19	1.38	1.17	1.45
R:S	1.27	1.49	1.17	1.38	1.21	1.44	1.15	1.51
Density	1.52	1.74	1.19	1.49	1.34	1.31	1.29	1.26

TD–tiller density, HD–hill density, D– stem density, SL–shoot length, RL–root length, PL–panicle length, SPP-spikelets per panicle, PN– Pod number, PY–pod yield, SY–straw yield, RY–root yield, GY– grain yield, SD–stem diameter, HI–harvest index, R:S–root to shoot ratio, SRL–specific root length, TPH-Tillers per hill.

Table S4. Physico–chemical characteristics (mean ± S.E) of soil in crop field with uninvaded (UR) and invaded (IR) ridges.

Parameters	Rice 0–1 m UR	Rice 0–1 m IR	Rice 2–3 m UR	Rice 2–3 m IR	Rice 4–5 m UR	Rice 4–5 m IR	Soybean 0–1 m UR	Soybean 0–1 m IR	Soybean 2–3 m UR	Soybean 2–3 m IR	Soybean 4–5 m UR	Soybean 4–5 m IR
Gravel (%)	53.87±0.04[b]	50.40±0.31[b]	62.04±2.12[c]	43.05±0.58[a]	47.26±0.00[a]	44.09±0.78[a]	65.76±0.63[a]	66.28±0.71[a]	74.46±0.64[b]	73.33±0.46[b]	74.07±0.80[b]	71.66±0.74[b]
Sand (%)	14.25±0.06[b]	15.90±0.16[a]	13.84±0.00[a]	16.99±0.25[a]	15.17±0.00[c]	16.05±0.69[a]	10.65±0.32[b]	10.51±0.44[b]	8.49±0.35[a]	8.37±0.43[a]	9.56±0.22[ab]	9.85±0.49[ab]
Silt (%)	7.49±0.01[b]	7.94±0.42[a]	6.99±0.00[a]	10.07±0.54[a]	10.17±0.00[c]	9.03±0.62[a]	5.77±0.26[a]	6.51±0.67[a]	4.22±0.18[a]	5.04±0.64[a]	4.85±0.56[a]	5.16±0.50[a]
Clay (%)	25.39±0.02[b]	25.76±0.71[a]	22.91±0.00[a]	29.89±0.19[b]	27.40±0.00[c]	30.83±0.67[b]	17.82±0.55[b]	16.70±0.35[b]	12.83±0.36[a]	13.26±0.53[a]	11.53±0.12[a]	13.33±0.65[a]

Parameter												
ST (° C)	24.00±0.00[a]	23.67±0.33[a]	24.00±0.00[a]	24.33±0.33[a]	24.67±0.33[a]	25.00±0.58[a]	24.00±0.58[b]	23.00±0.58[b]	21.00±0.58[ab]	21.67±0.33[b]	18.33±0.88[a]	18.33±0.33[a]
SMC (%)	22.57±0.49[a]	12.78±0.93[a]	22.07±0.26[a]	27.48±1.55[b]	36.37±0.37[b]	29.79±1.18[b]	25.67±2.03[a]	25.34±0.1.67[b]	22.33±3.67[a]	17.75±2.06[ab]	22.00±6.25[a]	9.51±2.69[a]
BD (g cm^{-3})	1.43±0.00[b]	1.16±0.01[a]	1.33±0.04[ab]	1.19±0.01[a]	1.26±0.00[a]	1.19±0.01[a]	1.18±0.01[a]	1.22±0.03[a]	1.39±0.03[b]	1.34±0.03[ab]	1.43±0.03[b]	1.42±0.03[b]
Porosity (%)	45.18±0.00[a]	55.57±0.27[a]	48.84±1.71[ab]	54.07±0.47[a]	51.71±0.00[b]	54.30±0.54[a]	54.57±0.17[b]	53.16±1.31[b]	46.49±0.98[a]	48.31±1.18[ab]	45.04±1.05[a]	45.43±1.19[a]
OC (%)	1.82±0.02[a]	2.20±0.02[a]	2.04±0.02[b]	2.21±0.01[a]	1.81±0.00a	2.41±0.02[a]	2.23±0.00[a]	2.27±0.02[b]	2.32±0.01[b]	2.16±0.02[a]	2.57±0.02[c]	2.63±0.02[c]
pH	6.57±0.02[a]	6.98±0.05[b]	6.52±0.06[a]	6.67±0.02[a]	6.50±0.04[a]	6.70±0.06[a]	6.57±0.02[b]	7.64±0.05[a]	6.52±0.06[ab]	7.41±0.20[a]	6.37±0.03[a]	7.53±0.11[a]
TN (%)	0.29±0.01[b]	0.29±0.02[a]	0.28±0.00[b]	0.29±0.01[a]	0.25±0.01[a]	0.30±0.01[a]	0.30±0.01[b]	0.33±0.02[ab]	0.28±0.01[ab]	0.28±0.02[a]	0.27±0.01[a]	0.39±0.01[b]
P (%)	0.0027±0.0001[b]	0.0047±0.0001[ab]	0.0022±0.0001[a]	0.0043±0.0001[a]	0.0021±0.0001[a]	0.0051±0.0001[b]	0.0030±0.0001[b]	0.0053±0.0001[a]	0.0023±0.0001[a]	0.0052±0.0001[a]	0.0022±0.0001[a]	0.0053±0.0001[a]
K (%)	0.0031±0.0001[a]	0.0039±0.0001[a]	0.0036±0.0001[b]	0.0046±0.0001[b]	0.0034±0.00003[ab]	0.0048±0.0001[b]	0.0032±0.0001[a]	0.0035±0.0001[a]	0.0039±0.0001[b]	0.0043±0.0001[b]	0.0033±0.0001[a]	0.0050±0.0001[c]

Where, ST–soil temperature, SMC–soil moisture content, BD–bulk density, OC–organic carbon, TN–total nitrogen, P– available phosphorous, K– available potassium. Different lowercased alphabets above mean±S.E represent the significant difference at $p < 0.05$ between distance intervals.

Table S5: Uncertainty factor ($^{F}U_{\text{meas}}$) for soil physico-chemical measurements.

Parameters	Rice								Soybean							
	Treatment		Distance						Treatment		Distance					
			0-1m		2-3 m		4-5m				0-1m		2-3 m		4-5m	
	UR	IR	UR	IR	UR	IR	UR	IR	UR	IR	UR	IR	UR	IR	UR	IR
Gravel (%)	1.13	1.08	1.00	1.01	1.06	1.02	1.00	1.03	1.06	1.05	1.02	1.02	1.02	1.01	1.02	1.02
Sand (%)	1.04	1.05	1.01	1.02	1.00	1.03	1.00	1.08	1.12	1.13	1.05	1.08	1.07	1.09	1.04	1.09
Silt (%)	1.19	1.15	1.00	1.09	1.00	1.10	1.00	1.13	1.20	1.23	1.09	1.19	1.08	1.24	1.23	1.19
Clay (%)	1.08	1.09	1.00	1.05	1.00	1.01	1.00	1.04	1.22	1.14	1.06	1.04	1.05	1.07	1.02	1.09
ST (° C)	1.02	1.04	1.00	1.02	1.00	1.02	1.02	1.04	1.14	1.11	1.04	1.04	1.05	1.03	1.09	1.03
SMC (%)	1.28	1.51	1.04	1.13	1.02	1.10	1.02	1.07	1.36	1.78	1.15	1.12	1.39	1.23	1.60	1.83
BD (g cm^{-3})	1.06	1.02	1.00	1.01	1.06	1.02	1.00	1.02	1.10	1.08	1.01	1.05	1.03	1.04	1.03	1.04
Porosity (%)	1.07	1.02	1.00	1.01	1.06	1.02	1.00	1.02	1.10	1.08	1.01	1.04	1.04	1.04	1.04	1.05
OC (%)	1.06	1.05	1.02	1.01	1.02	1.01	1.00	1.02	1.06	1.09	1.00	1.02	1.01	1.01	1.01	1.01
pH	1.01	1.02	1.00	1.01	1.02	1.01	1.01	1.01	1.02	1.03	1.00	1.01	1.02	1.05	1.01	1.03
TN (%)	1.08	1.07	1.04	1.11	1.02	1.04	1.05	1.07	1.06	1.18	1.03	1.10	1.04	1.11	1.04	1.05
P (%)	1.13	1.08	1.06	1.02	1.05	1.05	1.05	1.04	1.18	1.03	1.07	1.03	1.09	1.03	1.08	1.04
K (%)	1.08	1.10	1.03	1.04	1.04	1.03	1.02	1.03	1.11	1.17	1.07	1.04	1.04	1.05	1.04	1.04

Table S6: Multiple linear regression (MLR) analysis on morphological, yield and yield related parameters of crop.

| | Rice | | | | | | | | Soybean | | | | | | |
| | Distance | | | Treatment | | | | | Distance | | | Treatment | | | |
	Coefficient	T	Sig.	Coefficient	T	Sig.	R^2		Coefficient	T	Sig.	Coefficient	T	Sig.	R^2
SL	0.21	2.06	0.042	-0.71	-4.31	0.000	0.16	SL	0.17	14.31	0.000	-0.01	-0.68	0.498	0.70
RL	0.02	1.46	0.147	0.01	0.28	0.778	0.00	RL	0.03	6.37	0.000	0.01	1.96	0.053	0.32
SD	0.02	5.64	0.000	-0.03	-6.66	0.000	0.41	SD	0.12	10.21	0.000	0.01	0.34	0.732	0.53
PL	1.10	3.88	0.000	-2.31	-5.01	0.000	0.26	PN	0.12	19.22	0.000	0.00	-0.48	0.635	0.81
GN	0.08	4.03	0.000	-0.17	-5.56	0.000	0.30	GN	0.10	10.36	0.000	-0.06	-4.13	0.000	0.58
SY	0.05	4.68	0.000	-0.12	-6.69	0.000	0.38	SY	0.19	15.44	0.000	0.00	0.04	0.966	0.73
RY	0.06	5.10	0.000	-0.08	-4.45	0.000	0.29	RY	0.13	14.63	0.000	0.00	0.16	0.876	0.70
GY	0.06	5.10	0.000	-0.08	-4.45	0.000	0.29	GY	0.11	11.80	0.000	-0.06	-3.49	0.001	0.63
SPP	0.18	4.35	0.000	-0.31	-4.63	0.000	0.26	PY	0.05	3.02	0.003	-0.08	-3.06	0.003	0.16
SRL	0.33	6.12	0.000	-0.06	-1.69	0.094	0.26	SRL	-0.20	-14.01	0.000	0.02	0.83	0.410	0.69
HI	0.00	0.82	0.413	0.01	2.34	0.021	0.04	HI	-0.01	-1.80	0.076	0.01	1.50	0.136	0.04
R:S	-0.01	-2.42	0.017	0.00	-0.72	0.476	0.04	R:S	0.00	3.96	0.000	0.01	3.33	0.001	0.22
TD	22.30	2.33	0.022	13.06	2.23	0.028	0.07	Density	13.27	12.46	0.000	1.33	0.77	0.445	0.63
HD	1.41	0.41	0.682	4.67	2.22	0.028	0.03								
TPH	0.19	2.41	0.018	-0.04	-0.88	0.379	0.04								

TD–tiller density, HD–hill density, D– stem density, SL–shoot length, RL–root length, PL–panicle length, SPP-spikelets per panicle, PN– Pod number, PY–pod yield, SY–straw yield, RY–root yield, GY– grain yield, SD–stem diameter, HI–harvest index, R:S–root to shoot ratio, SRL–specific root length, TPH-Tillers per hill.
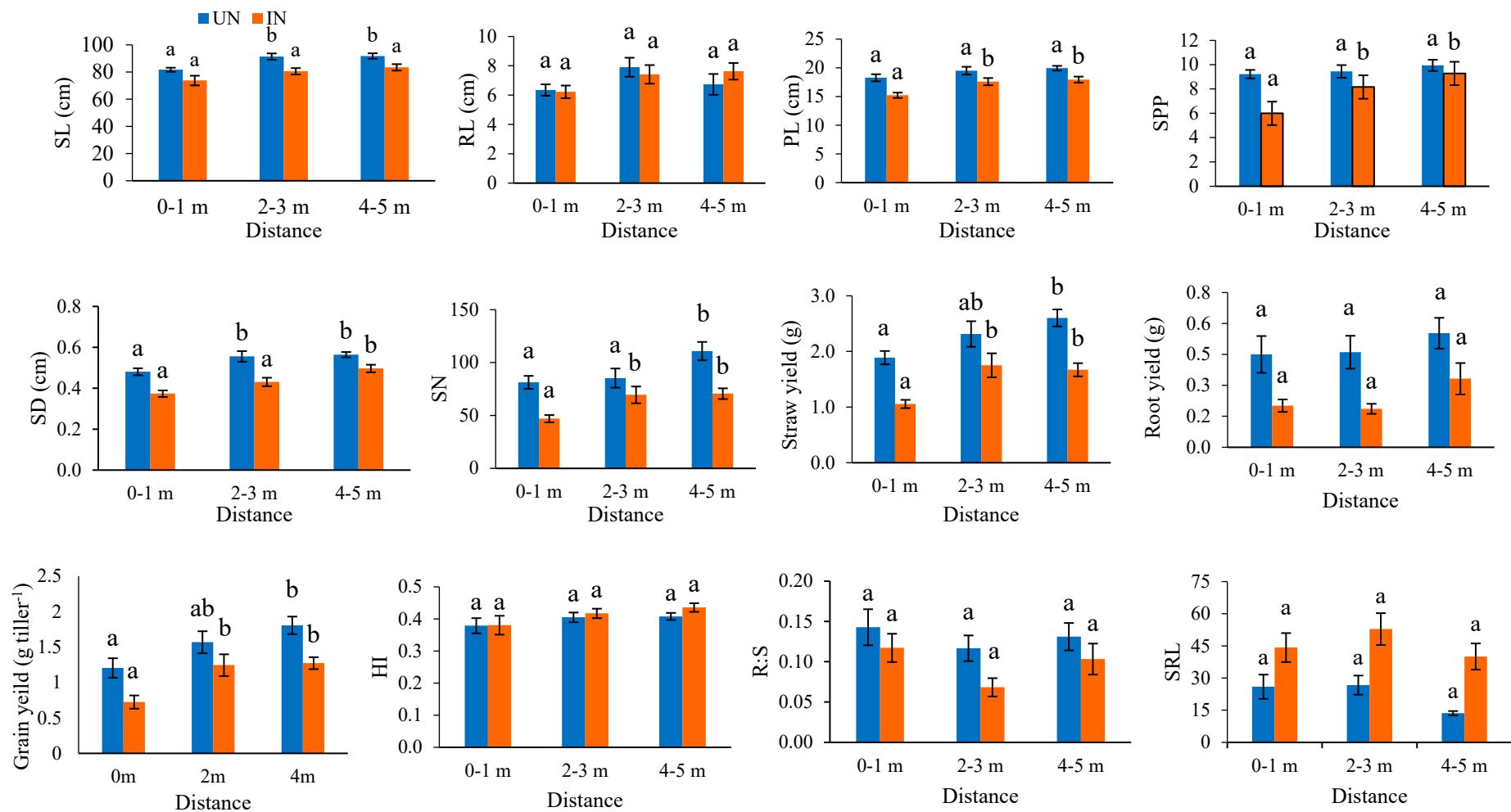
Figure S1. Morphological and yield parameters of rice crop at different distance intervals (0–1, 2–3, 4–5 m) from ridge. Different small letters above bar represent the significant difference at p < 0.05 between distance intervals. UR–fields with uninvaded ridges, IR–fields with invaded ridges, SL–shoot length, RL–root length, PL–panicle length, GN–grain number, SPP-spikelets per panicle, SY–straw yield, RY–root yield, GY– grain yield, SD–stem diameter, HI–harvest index, R:S–root to shoot ratio, SRL–specific root length, HI–harvest index, R:S–root to shoot ratio, SRL–specific root length.
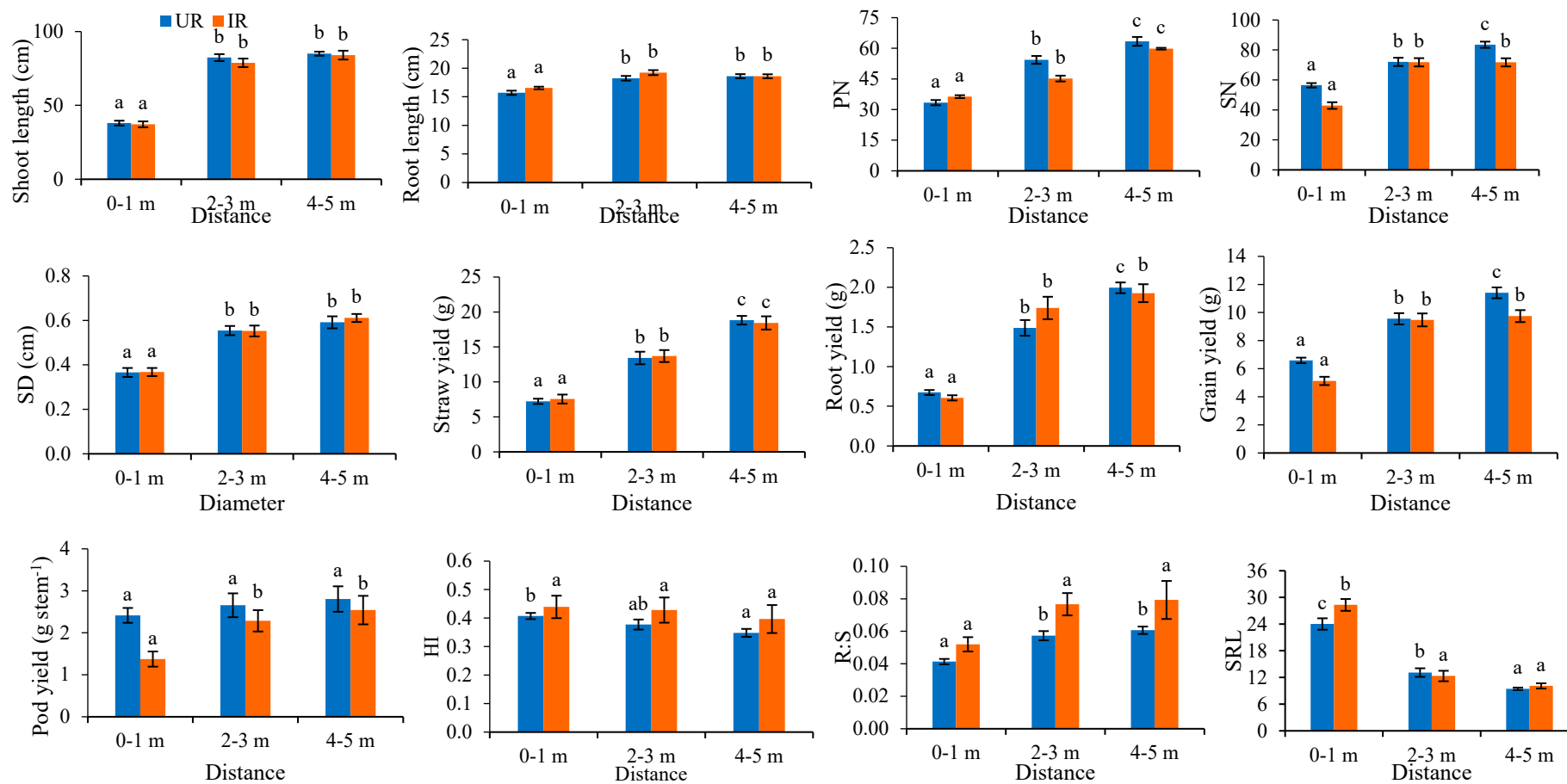
Figure S2. Treatment wise morphological and yield parameters of soybean crop in different distance intervals (0–1, 2–3, 4–5 m) in study site. Different small letters above bar represent the significant difference at p < 0.05 between distance intervals. UR–fields with uninvaded ridges, IR–fields with invaded ridges, SL–shoot length, RL–root length, PL–panicle length, SPP-spikelets per panicle, PN– Pod number, PY–pod yield, SY–straw yield, RY–root yield, GY– grain yield, SD–stem diameter, HI–harvest index, R:S–root to shoot ratio, SRL–specific root length.
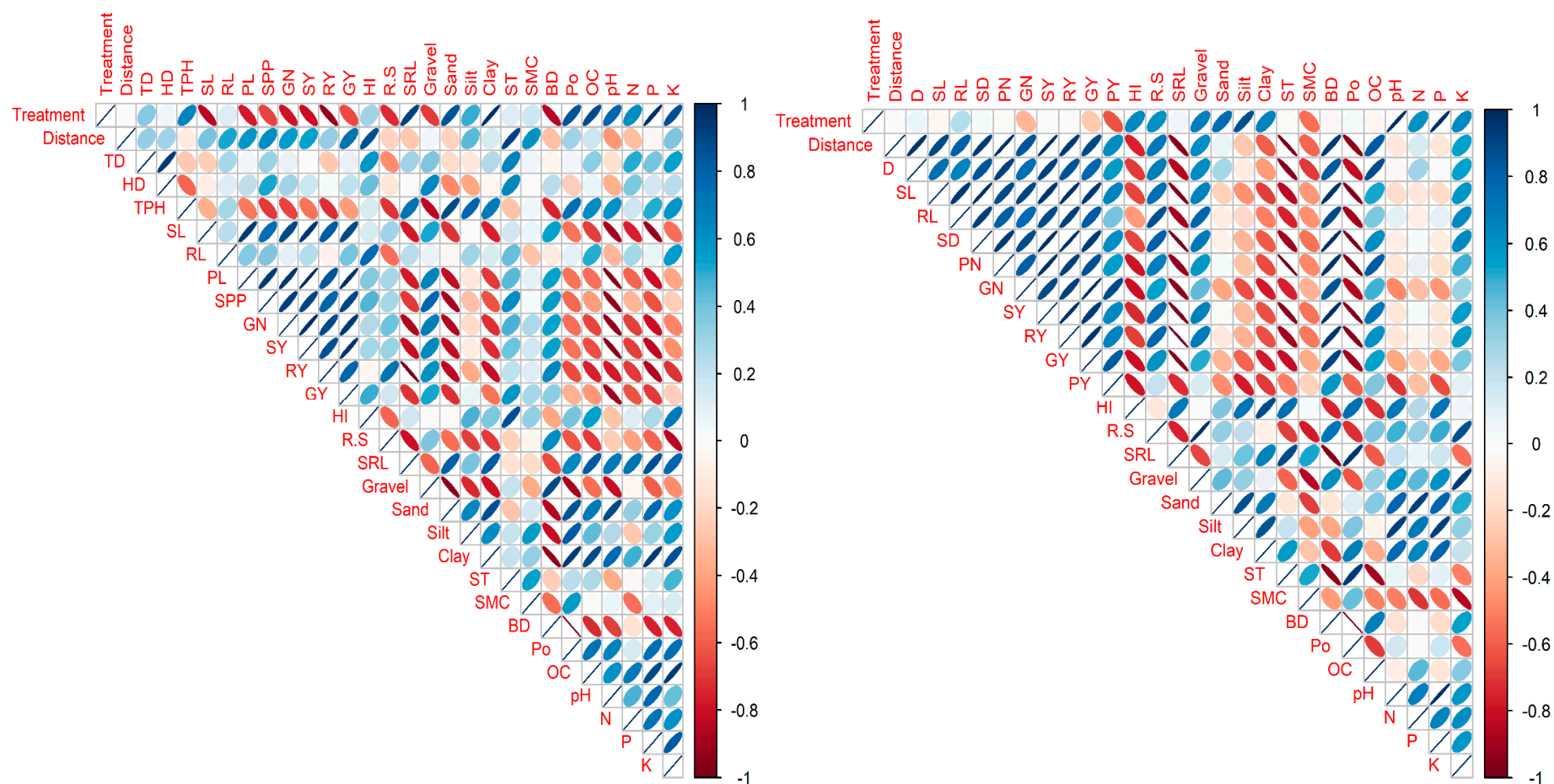
Figure S3. Pearson correlations between physical and chemical characteristics of soil, morphological and yield parameters of a. rice and, b. soybean crop, where, TD–tiller density, HD–hill density, TPH-tillers per hill, D– stem density, SL–shoot length, RL–root length, PL–panicle length, SPP–spikelet per panicle, GN–grain number, SY–straw yield, RY–root yield, GY– grain yield, SD–stem diameter, HI–harvest index, R:S–root to shoot ratio, SRL–specific root length. Boxed eclipses are significantly different at p<0.05.