

October 2025]

Supplementary Table 1 Year-wise comparison of grain yield using actual weather data and forecasted weather during 2013–2020

	Simulated yield (kg/ha) using actual weather data				Simulated yield (kg/ha) using forecasted weather data				Total observation				
	OBS	SIM	% Deviation	R ²	RMSE	d-Stat.	OBS	SIM		% Deviation	R ²	RMSE	d-Stat.
2013	3756	3852	2.56	0.325	602.36	0.741	3679	5532	50.37	0.310	1951.78	0.363	20
2014	3713	3894	4.87	0.34	605.15	0.73	3679	4428	20.36	0.23	1042.398	0.509	20
2015	3600	4045	12.36	0.30	825	0.63	3658	4985	36.28	0.25	1025.22	0.55	20
2016	3848	4081	6.06	0.12	675.5	0.57	3679	4323	17.50	0.32	1192.4	0.532	20
2017	3679	4658	26.61	0.42	1282.5	0.50	3789	4571	20.64	0.26	1390.83	0.443	20
2018	3526	4259	20.79	0.43	1251.9	0.59	3589	4926	37.25	0.35	1396.51	0.595	20
2019	3848	4641	20.61	0.21	1283.5	0.46	3745	4523	20.77	0.25	1385.22	0.456	20
2020	3925	4689	19.46	0.28	1269.7	0.86	3698	4529	19.22	0.29	1397.88	0.489	20

Supplementary Table 2 Treatment-wise comparison of simulated yield (kg/ha) (DAS) using actual weather data and forecasted weather during 2013–2020

	Simulated yield (kg/ha) using actual weather data				Simulated yield (kg/ha) using forecasted weather data				Total observation				
	OBS	SIM	% Deviation	R ²	RMSE	d-Stat.	OBS	SIM		% Deviation	R ²	RMSE	d-Stat.
25 October	4287	4617	7.70	0.74	561.3	0.86	4287	4760	11.03	0.67	743.8	0.52	24
04 November	4158	4832	16.21	0.64	1448	0.75	4158	5554	33.57	0.48	1647	0.43	24
14 November	3824	4156	8.68	0.50	915	0.69	3824	5173	35.28	0.42	1558.81	0.44	24
24 November	3232	3767	16.55	0.41	588	0.57	3232	3874	19.86	0.39	876	0.24	24
04 December	2893	3535	22.19	0.25	711	0.38	2893	3683	27.31	0.21	1008	0.32	24
HD 3086	3864	4210	8.95	0.58	507.16	0.78	3864	4409	14.10	0.24	876	0.57	30
HD 2967	3746	4100	9.45	0.26	852	0.62	3746	4610	23.06	0.47	1134	0.57	30
PBW 725	3708	4246	14.51	0.38	895	0.55	3708	4777	28.83	0.39	488	0.49	30
PBW 658	3397	4170	22.76	0.35	1223	0.504	3397	4639	36.56	0.56	1507	0.46	30