

Supplementary Table 1 Descriptive statistics of meteorological parameters during crop period in *rabi* 2021–22 and 2022–23 at Ludhiana and Gurdaspur

Meteorological parameter	Ludhiana				Gurdaspur			
	Maximum	Minimum	Mean	Standard deviation	Maximum	Minimum	Mean	Standard deviation
<i>Rabi 2021–22</i>								
Maximum temperature (°C)	39.9	13.5	25.6	7.3	39.3	13.6	25.8	7.3
Minimum temperature (°C)	24.4	5	12.3	5.5	21.7	3.9	12.2	5.5
Morning relative humidity (%)	97	61	88.8	7.9	96.7	57	84.7	10.7
Evening relative humidity (%)	83	13	45.6	17.5	83.1	38.4	61	11.8
Rainfall (mm)	51.6	0	7	14.7	88.1	0	10.5	23.2
Sunshine hours (h)	10.7	0.1	6.7	2.7	7.9	0	5	2
Wind speed (km/h)	5.9	1.2	2.7	1.2	4.9	0.9	2.5	0.9
<i>Rabi 2022–23</i>								
Maximum temperature (°C)	36.1	13.3	25.1	5.7	35.7	11.1	24.8	6.4
Minimum temperature (°C)	22.9	4.3	12.1	4.8	22.4	3.6	11.6	5.3
Morning relative humidity (%)	95	75	88.9	4.7	97.7	74.2	87.8	6.5
Evening relative humidity (%)	72	19	45.2	13.1	88.1	33.7	58.7	13.2
Rainfall (mm)	33	0	4.2	8.2	36.4	0	4.9	8.3
Sunshine hours (h)	11.1	1.4	6.7	2.8	8.6	0.6	4.8	1.9
Wind speed (km/h)	4.7	1.2	2.9	0.9	4.3	0.5	2.5	0.1

Supplementary Table 2 Descriptive statistics of meteorological parameters during disease period in *rabi* season of 2021–22 and 2022–23 at Ludhiana and Gurdaspur

Meteorological parameter	Ludhiana				Gurdaspur			
	Maximum	Minimum	Mean	Standard deviation	Maximum	Minimum	Mean	Standard deviation
<i>Rabi 2021–22</i>								
Maximum temperature (°C)	35.6	22.0	28.1	5.5	36.1	22.0	27.9	5.7
Minimum temperature (°C)	18.9	7.2	13.4	4.4	17.6	7.6	13.1	4.1
Morning relative humidity (%)	94.0	79.0	87.6	5.3	87.7	70.6	80.2	5.9
Evening relative humidity (%)	58.0	23.0	42.7	12.4	67.3	43.0	58.4	7.7
Rainfall (mm)	9.9	0	1.9	3.7	17.9	0	2.2	6.3
Sunshine hours (h)	10.5	7.3	8.8	1.2	7.9	4.7	6.5	1.2
Wind speed (km/h)	5.9	1.6	3.1	1.4	4.2	2.8	3.5	0.8
Foliar blight severity (%) *	5.05–28.52				4.23–21.69			
<i>Rabi 2022–23</i>								
Maximum temperature (°C)	28.5	23.0	26.3	1.9	28.2	22.4	25.5	2.0
Minimum temperature (°C)	15.8	9.2	13.1	2.5	16.1	8.4	12.5	2.7
Morning relative humidity (%)	90.0	87.0	87.9	1.1	89.6	81.5	85.9	2.4
Evening relative humidity (%)	53.0	38.0	44.6	4.8	60.4	48.9	54.8	3.8
Rainfall (mm)	33	0	8.2	12.2	36.4	0	9.6	13.3
Sunshine hours (h)	10.3	6.8	7.9	1.1	7.2	2.6	4.9	1.5
Wind speed (km/h)	3.5	2.8	3.5	0.6	4.0	2.4	3.0	0.6
Foliar blight severity (%) *	7.23–29.35				8.21–30.65			

Supplementary Table 3 Correlation coefficients between weekly meteorological parameters and foliar blight severity in 2021–22 and 2022–23 at Ludhiana and Gurdaspur

Meteorological parameter	Ludhiana		Gurdaspur	
	2021–22	2022–23	2021–22	2022–23
Maximum temperature (°C)	0.96***	0.45	0.97***	0.39
Minimum temperature (°C)	0.91**	0.91**	0.91**	0.95***
Morning relative humidity (%)	-0.76*	-0.13	-0.70	-0.12
Evening relative humidity (%)	-0.64	0.70	-0.86**	0.89**
Rainfall (mm)	-0.40	0.70	-0.32	0.80*
Sunshine hours (h)	0.79*	-0.12	0.55	-0.56
Wind speed (km/h)	-0.35	0.39	-0.35	0.38

*, **, ***, Significant at 5% level ($p \leq 0.05$); 1% level ($p \leq 0.01$); 0.1% level ($p \leq 0.001$), respectively.

Supplementary Table 4 Regression models between foliar blight and meteorological parameters

Foliar blight	Regression equation	R ²	Adjusted R ²
Ludhiana	$Y = -0.22 T_{\max} + 1.83 T_{\min} - 0.32 RH_m + 0.01 RH_e + 0.48 RF + 2.58 SS_h$	0.96	0.82
	$Y = 2.13 T_{\min} - 0.18 RH_m + 0.30 RF$	0.95	0.85
Gurdaspur	$Y = 0.22 T_{\max} + 1.96 T_{\min} - 0.08 RH_m - 0.25 RH_e + 0.44 RF + 0.23 SS_h$	0.98	0.87
	$Y = 2.24 T_{\min} - 0.20 RH_m + 0.35 RF$	0.97	0.89

T_{\max} , Maximum temperature (°C); T_{\min} , Minimum temperature (°C); RH_m , Morning relative humidity (%); RH_e , Evening relative humidity (%); SS_h , Sunshine hours (h/day); RF, Total rainfall (mm).