

**Table S1:** ANOVA table for interaction between varieties (Kufri Pukhraj and Kufri Bahar) and treatment (healthy control and ToLCNDV infection)for parameters viz., plant height, dry matter of potato tuber, stem diameter, Chl *a*, Chl *b*, total Chl, carotenoid, proline content, MDA content, RWC, relative electric conductivity, starch, sucrose, fructose, glucose,  $\beta$ -amylase,  $\alpha$ -amylase, phosphorylase, catalase, peroxidase, ascorbate oxidase and superoxide dismutase activity.

S.N.	Parameters	Varieties	Treatment	V $\times$ T
1.	Plant height	ns	***	*
2.	Dry matter of potato tuber	***	***	NS
3.	Stem diameter	***	***	*
4.	Chl <i>a</i>	***	***	NS
5.	Chl <i>b</i>	***	***	NS
6.	Total chl	***	***	NS
7.	Carotenoid	***	***	NS
8.	Proline content	***	***	***
9.	MDA content	***	***	**
10.	Leaf relative water content	***	***	*
11.	Relative electric conductivity	***	***	*
12.	Starch content	***	***	**
13.	Sucrose content	*	***	NS
14.	Fructose content	ns	**	***
15.	Glucose content	*	***	***
16.	$\beta$ -amylase	ns	***	***
17.	$\alpha$ -amylase	ns	***	***
18.	Phosphorylase	***	***	NS
19.	Catalase activity	**	***	NS
20.	Peroxidase activity	***	***	NS
21.	Ascorbate peroxidase activity	***	***	NS
22.	Superoxide dismutase	***	***	***

ns: Not Significant ( $p > 0.05$ ), \*significant at  $p < 0.05$ , \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S2:** Tukey multiple comparison test for plant height of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	No	ns	0.074
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

ns: Not Significant ( $p > 0.05$ ), \*\*\* significant at  $p < 0.001$ .

**Table S3:** Tukey multiple comparison test for dry matter of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\*\*\* significant at  $p < 0.001$ .

**Table S4:** Tukey multiple comparison test for stem diameter of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	*	0.016
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	No	ns	0.905
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	**	0.007

ns: Not Significant ( $p > 0.05$ ), \* significant at  $p < 0.05$ , \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S5:** Tukey multiple comparison test for Chl a of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	*	0.033
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	**	0.008
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	*	0.038
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\* significant at  $p < 0.05$ , \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S6:** Tukey multiple comparison test for Chl b of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	**	0.002
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	No	ns	0.099
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

ns: Not Significant ( $p > 0.05$ ), \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S7:** Tukey multiple comparison test for total Chl of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	**	0.007
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	**	0.005
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	**	0.005
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S8:** Tukey multiple comparison test for carotenoid content of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	**	.003
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	***	<.001
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	**	.004
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<.001

\*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S9:** Tukey multiple comparison test for proline content of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	*	0.02
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	**	0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	No	ns	0.18
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

ns: Not Significant ( $p > 0.05$ ), \* significant at  $p < 0.05$ , \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S10:** Tukey multiple comparison test for MDA content of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	**	0.007
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	*	0.015
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\* significant at  $p < 0.05$ , \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S11:** Tukey multiple comparison test for RWC of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	No	ns	0.288
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

ns: Not Significant ( $p > 0.05$ ), \*\*\* significant at  $p < 0.001$ .

**Table S12:** Tukey multiple comparison test for relative electric conductivity of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	*	0.019
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\* significant at  $p < 0.05$ , \*\*\* significant at  $p < 0.001$ .

**Table S13:** Tukey multiple comparison test for starch content of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	No	ns	0.897
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

ns: Not Significant ( $p > 0.05$ ), \*\*\* significant at  $p < 0.001$ .

**Table S14:** Tukey multiple comparison test for sucrose content of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	**	0.002
Kufri Pukhraj:Control vs. Kufri Bahar:Control	No	ns	0.703
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	No	ns	0.131
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	No	ns	0.058
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	*	0.028

ns: Not Significant ( $p > 0.05$ ), \* significant at  $p < 0.05$ , \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S15:** Tukey multiple comparison test for fructose content of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	**	0.006
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	**	0.002
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S16:** Tukey multiple comparison test for glucose content of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	**	0.004
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S17:** Tukey multiple comparison test for  $\beta$ -amylase of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	**	0.004
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	**	0.002

\*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S18:** Tukey multiple comparison test for  $\alpha$ -amylase of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	*	0.010
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\* significant at  $p < 0.05$ , \*\*\* significant at  $p < 0.001$ .

**Table S19:** Tukey multiple comparison test for phosphorylase of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	**	0.005
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	**	0.009
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	*	0.014
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\* significant at  $p < 0.05$ , \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S20:** Tukey multiple comparison test for catalase activity of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	*	0.021
Kufri Pukhraj:Control vs. Kufri Bahar:Control	No	ns	0.272
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	No	ns	0.313
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	*	0.027
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	**	0.003

ns: Not Significant ( $p > 0.05$ ), \* significant at  $p < 0.05$ , \*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S21:** Tukey multiple comparison test for peroxidase activity of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	**	0.002
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	**	0.005
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .

**Table S22:** Tukey multiple comparison test for ascorbate peroxidase activity of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	Yes	**	0.007
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

\*\*significant at  $p < 0.01$ , \*\*\* significant at  $p < 0.001$ .



**Table S23:** Tukey multiple comparison test for superoxide dismutase activity of Kufri Pukraj and Kufri Bahar in control (healthy) and ToLCNDV infection plants

Tukey's Multiple Comparisons Tests	Significant?	Summary	Adjusted <i>p</i> Value
Kufri Pukhraj:Control vs. Kufri Pukhraj:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:Control	Yes	***	<0.001
Kufri Pukhraj:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:Control	No	ns	0.494
Kufri Pukhraj:ToLCNDV vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001
Kufri Bahar:Control vs. Kufri Bahar:ToLCNDV	Yes	***	<0.001

ns: Not Significant ( $p > 0.05$ ), \*\*\* significant at  $p < 0.001$ .