123.52 cm compared to 112.19 cm without H_2O_2. In contrast, plants exposed to salt stress without hydrogen peroxide were generally shorter than the control, with significant reductions occurring at higher NaCl concentrations (200~250 mM).

Table 2 Growth parameters of *Zea mays* under salinity treatments with and without Hydrogen peroxide (H_2O_2) application

Parameters	With and without HP	Salinity treatment (mM NaCl)					
		0	50	100	150	200	250
Survival (%)		100.00	100.00	100.00	100.00	100.00	100.00
Plant height (cm)	WHP	160.76±2.69^{c}	119.69±0.29^{b}	119.40±0.30^{b}	114.69±0.87^{ab}	113.99±0.50^{ab}	112.19±0.29^{ab}
	PHP	173.08±1.26^{c}	150.12±0.47^{b}	123.76±0.28^{ab}	118.52±0.26^{a}	120.62±0.25^{a}	123.52±0.27^{a}
Stem girth (cm)	WHP	27.23±0.08^{a}	22.83±0.22^{a}	21.13±0.21^{a}	19.76±0.27^{ab}	18.49±0.06^{ab}	18.11±0.13^{ab}
	PHP	25.30±0.06^{a}	22.95±0.08^{a}	22.12±0.08^{a}	18.52±0.05^{a}	17.57±0.04^{a}	17.55±0.03^{a}
Number of leaves	WHP	13.00±0.00^{a}	12.75±0.16^{a}	12.63±0.18^{a}	12.00±0.19^{a}	11.25±0.16^{a}	10.87±0.13^{a}
	PHP	13.00±0.00^{a}	14.00±0.00^{a}	12.75±0.16^{a}	12.00±0.00^{a}	12.00±0.00^{a}	12.00±0.00^{a}
Leaf length (cm)	WHP	25.35±0.04^{a}	21.43±0.13^{a}	20.35±0.05^{a}	19.79±0.23^{a}	19.49±0.15^{a}	20.71±1.28^{a}
	PHP	23.53±0.18^{a}	20.05±0.06^{ab}	19.52±0.05^{ab}	19.70±0.00^{ab}	19.78±0.23^{ab}	19.46±0.05^{ab}
Leaf breadth (cm)	WHP	9.80±0.05^{a}	7.98±0.04^{a}	7.6±0.03^{a}	7.25±0.02^{a}	7.20±0.04^{a}	7.07±0.03^{a}
	PHP	9.58±0.05^{a}	9.13±0.04^{a}	7.93±0.0.3^{a}	7.46±0.42^{a}	7.31±0.03^{a}	7.36±0.04^{a}
Leaf area (cm^2)	WHP	133.02±0.67^{a}	124.15±0.39^{ab}	114.74±0.25^{b}	107.82±0.78^{b}	109.10±0.31^{b}	105.25±0.16^{b}
	PHP	127.51±0.74^{a}	124.48±0.39^{a}	114.28±0.32^{ab}	107.00±0.11^{b}	104.230.16^{b}	103.99±0.08^{b}
Number of roots	WHP	32.25±0.59^{a}	31.88±0.30^{a}	26.25±0.45^{ab}	19.87±0.44^{ab}	23.50±0.65^{ab}	22.88±0.67^{ab}
	PHP	32.25±0.49^{a}	28.62±1.49^{b}	23.25±0.37^{bc}	20.37±0.50^{bc}	22.75±0.31^{bc}	22.50±0.27^{bc}
Root length (cm)	WHP	64.66±2.87^{a}	44.17±0.56^{b}	42.03±0.79^{b}	40.87±2.63^{b}	33.53±0.46^{c}	37.73±4.39^{c}
	PHP	66.76±2.04^{a}	55.48±0.63^{b}	54.68±1.84^{b}	43.30±0.10^{bc}	36.40±1.27^{bc}	45.88±0.69^{bc}
Number of tassels	WHP	11.38±0.26^{a}	11.50±0.19^{a}	11.37±0.18^{a}	11.25±0.16^{a}	11.12±0.23^{a}	12.38±0.18^{a}
	PHP	11.63±0.26^{a}	11.37±0.18^{a}	11.25±0.16^{a}	11.50±0.19^{a}	11.62±0.26^{a}	11.75±0.25^{a}

Note: Values are mean ± standard error of 8 replicates (Tukey HSD test at $p \leq 0.05$). Mean with the same alphabet(s) along the row are not significantly different from each other. PHP: plus hydrogen peroxide (H_2O_2); WHP: without hydrogen peroxide (H_2O_2)

Figure 1 Effect of salinity stress with hydrogen peroxide (A) and without hydrogen peroxide (B) on *Zea mays* growth

Stem girth was influenced by salinity, with hydrogen peroxide treated plants showing minor improvements at 50~150 mM NaCl compared to the control. However, at 200~250 mM NaCl, stem girth declined, though the reduction was less than without hydrogen peroxide. Without hydrogen peroxide, stem girth generally decreased under salinity, with significant reductions observed at higher NaCl levels.

Leaf production was also affected by salinity. At lower concentrations (50~100 mM NaCl), plants produced similar or slightly fewer leaves than the control, though the change was not significant. However, at higher concentrations (150~250 mM NaCl), leaf production declined, though the reduction was not significantly different from the control in many cases. Similarly, in plants grown without hydrogen peroxide, the number of leaves