2.5 Data collection

Plant height was measured from the surface of the soil to the plant apical bud using a meter rule. Stem girth was measured at the 2 cm point from the base of the plants using a digital vernier caliper. Leaf length and breadth were measured using a meter rule, and leaf area was calculated. The number of leaves and ears were counted manually on each plant. Ear length and diameter were measured using a meter rule, and a vernier caliper respectively. Root growth was determined by measuring the root length using a meter rule after uprooting, and the number of roots was counted manually. Fresh and dry mass of plant parts were assessed using an electronic weighing balance.

2.6 Laboratory analysis of maize grains

Dried maize grains were ground into fine powder for analysis. Fiber content was determined by boiling the sample in 1.25% H_2SO_4 and 1.25% NaOH, followed by washing and drying. Other parameters of proximate composition were analyzed using the standard methods of AOAC (1985) in which the mixture was boiled until a clear solution was obtained and allowed to cool at room temperature. The resulting solution was quantitatively transferred into a calibrated flask and completed to 25 mL with distilled water. Moisture, crude protein, crude fat, carbohydrate and ash contents were calculated using relevant formulas. N was analyzed using the macro Kjeldahl method, while P was determined using ammonium-vanadomolybdate reagent and a calibration curve. Potassium contents were assayed through flame emission photometry, and calcium contents by Ethylenediaminetetraacetic acid (EDTA) titration.

2.7 Statistical analysis

All data collected were subjected to One-Way Analysis of Variance (ANOVA) using the Statistical Package for Social Sciences (SPSS), version 27.0. Where significant differences were observed among treatment means, Tukey's Honest Significant Difference (HSD) test was used at a 95% confidence level to perform post-hoc comparisons, and values presented as mean ± standard error (SE).

3 Results

3.1 Soil used for planting

The soil used for planting was a sandy clay loam adequate for maize cultivation with physico-chemical characteristics shown in Table 1.

Table 1 Physico-chemical parameters of soil used for planting

Parameter	Value
Sand (%)	57.50
Clay (%)	29.37
Silt (%)	13.13
Soil textural class	Sandy clay loam
Soil pH	6.53
Electrical conductivity EC (%)	0.39
Organic matter (%)	1.56
Available N (mg/kg)	0.17
Available P (mg/) kg	20.11
Available K (cmol/kg)	0.22
Available Na (cmol/kg)	0.37
Available Ca (cmol/kg)	5.78
Available Al (cmol/kg)	20.58
Available Mg (cmol/kg)	2.23

3.2 Plant survival and growth

Table 2 shows the influence of hydrogen peroxide (H_2O_2) on the plant height, stem girth, number of leaves, leaf length, leaf breadth, leaf area, number of roots, root length and the number of tassels of *Zea mays* under salt stress. While all plants survived, salinity reduced plant height in both hydrogen peroxide treated and untreated plants (Figure 1). However, no significant difference was observed between the control and the salinity treated plants with hydrogen peroxide application at lower levels, though at 250 mM NaCl, H_2O_2 treated plants maintained