Screening of Purslane (*Portulaca oleracea* L.) Accessions for High Salt Tolerance

ABSTRACT

Purslane (*Portulaca oleracea* L.) is an herbaceous leafy vegetable crop, comparatively more salt-tolerant than any other vegetables with high antioxidants, minerals, and vitamins. Salt-tolerant crop variety development is of importance due to inadequate cultivable land and escalating salinity together with population pressure. In this view a total of 25 purslane accessions were initially selected from 45 collected purslane accessions based on better growth performance and subjected to 5 different salinity levels, that is, 0.0, 10.0, 20.0, 30.0, and 40.0 $dS\,m^{-1}$ NaCl. Plant height, number of leaves, number of flowers, and dry matter contents in salt treated purslane accessions were significantly reduced () and the enormity of reduction increased with increasing salinity stress. Based on dry matter yield reduction, among all 25 purslane accessions 2 accessions were graded as tolerant (Ac7 and Ac9), 6 accessions were moderately tolerant (Ac3, Ac5, Ac6, Ac10, Ac11, and Ac12), 5 accessions were moderately susceptible (Ac1, Ac2, Ac4, Ac8, and Ac13), and the remaining 12 accessions were susceptible to salinity stress and discarded from further study. The selected 13 purslane accessions could assist in the identification of superior genes for salt tolerance in purslane for improving its productivity and sustainable agricultural production.