EVALUATION OF COTTON CULTIVARS FOR DIFFERENTIAL RESPONSES TO SALINITY STRESS
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Abstract

The Ogallala aquifer has been the main source of irrigation water for farmers on the Texas High Plains. Aquifer depletion and changing climate have altered the area into a more arid environment, and increasing formation of mineral sediment deposits are cumulating into the water supply. The Texas A&M AgriLife Research in Lubbock has developed a hydroponic screening method used to evaluate wild and obsolete cotton in the germplasm collection for salt tolerance. This screening method will be adapted to distinguish differences in response to salt stress for current cultivars. Also this evaluation will assist with improving knowledge of water quality and crop development parameters and provide decision tools to manage abiotic stress, assist with cultivar selection during the transition to dryland farming, and identify parental lines that could be used for developing more salt-tolerant cultivars.