

*Sugar Crops Research Institute, Agriculture Research Center, Giza 12619, Egypt*

The objectives of this study were to determine the relative magnitude of G X E interaction effects and to evaluate phenotypic stability in sugarcane (*Saccharum* spp.). Seven sugarcane promising varieties: G99/165, G84/47, G98/28, G98/24, G95/19, G95/21 and G98/87 and two sugarcane commercial cultivars G.T54/9 and Ph8013 were evaluated for two years (plant cane and 1st ratoon) at two locations (Sohag and Quena Governorates) during two successive growing seasons, (2014/05 and 2015/06) to study the effect of environmental conditions, i.e. loca-