

The tomato is a major vegetable species in Kenya. By providing salt and drought tolerant varieties, their productivity in the marginal areas of Kenya could be significantly improved. The aim of this work was to collect landraces and market varieties, to determine the genetic variation of different morphological, agronomic and biochemical characteristics, to determine the salt and drought tolerance and to test the cross-compatibility of landrace with market varieties. The experiments carried out in the years 1992 to 1994 with 23 landraces and 10 types of market were as completely randomized block or. Slitting lines created. The investigations were carried out in the greenhouse and in a vegetation hall. The mobile roof and electronic irrigation system in the vegetation hall allowed a controlled water application. The salt concentrations used in the vascular experiments were 0, 3, 4, 6, and 8 g NaCl kg⁴ soil, corresponding to an electrical conductivity of 0.5, 6.5, 7.4, 9.1, 11.6 and 14, respectively, 2 mmhos cm^{** 4}. The water variants were 40 and 75% plant-available water. The investigation on isoenzyme polymorphism was carried out by means of columnar electrophoresis. The analysis of variance revealed a considerable variation for all quantitative features studied. The differences between the populations were mostly highly significant. With the help of the principal component analysis kon and 8 g NaCl kg⁴ soil, corresponding to an electrical conductivity of 0.5, 6.5, 7.4, 9.1, 11.6 and 14.2 mmhos cm^{** 4}, respectively. The water variants were 40 and 75% plant-available water. The investigation on isoenzyme polymorphism was carried out by means of columnar electrophoresis. The analysis of variance revealed a considerable variation for all quantitative features studied. The differences between the populations were mostly highly significant. With the help of the principal component analysis kon and 8 g NaCl kg⁴ soil, corresponding to an electrical conductivity of 0.5, 6.5, 7.4, 9.1, 11.6 and 14.2 mmhos cm^{** 4}, respectively. The water variants were 40 and 75% plant-available water. The investigation on isoenzyme polymorphism was carried out by means of columnar electrophoresis. The analysis of variance revealed a considerable variation for all quantitative features studied. The differences between the populations were mostly highly significant. With the help of the principal component analysis kon

certain group structures are revealed. Within the market, the industrial tomatoes were clearly distinguished from the risers with four fruit characteristics. The landraces and markets also formed relatively distinct groups.