Proceedings of the XLIX Italian Society of Agricultural Genetics Annual Congress
Potenza, Italy – 12/15 September, 2005
ISBN **88-900622-6-6**

Poster Abstract - C.27

GENETIC DIVERGENCE ANALYSIS IN EGGPLANT (*SOLANUM MELONGENA*) AND ALLIED SPECIES

G. B. POLIGNANO*, V. BISIGNANO*, P. UGGENTI*, V. ALBA**, C. DELLA GATTA**

*) Istituto di Genetica Vegetale, C.N.R., Via Amendola 165/A, 70126 Bari, Italy
**) Dipartimento di Biologia e Chimica Agro Forestale e Ambientale, Università di Bari, Via Amendola 165/A, 70126 Bari, Italy

germplasm, genetic diversity, Solanum spp*., multivariate analyses*

Genetic divergence in 98 accessions of *Solanum melongena* (55) and his allied species *S. aethiopicum* (27) and *S. macrocarpon* (16) for 16 morpho-agronomic and fruit traits revealed the existence of considerable diversity. Such collections were grown in the field during the five years EU-EGGNET project for characterization and seed multiplication. Diversity has been observed between the different species as well as within the species. Frequency distributions for fruit pedicel length, bitter flavour, browning, peelability, and cooking test were determined. Beside the qualitative descriptors 11 quantitative descriptors were described. The relationships among them were analysed by the Principal Component Analysis to summarize the data and reduce the number of variables for clustering. Plant height, flowering time, flower/inflorescence, fruit length and fruit acidity contributed most towards total divergence. Cluster analysis conducted separately for each species in relation to the genetic status of accession (sub-species, botanical group, cultivar, landrace, population) grouped the accessions into 3 distinct and significant clusters. No relationship was found between genetic divergence and genetic status of sample. In addition, relevant fruit discrete descriptors were used as classification variable to find out whether some of them correspond to certain morpho-agronomic properties. The genotypes included in the diverse clusters could be used as promising parents for hybridisation to obtain high heterotic response and thus better segregants in eggplant.