New Agriculturist, **27**(2) : 289–294, 2016 http://biovedjournal.org/

Assessment of genetic variation in cultivated and wild tomato genotypes for yield and quality contributing traits

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Received July 6, 2016 and Accepted September 20, 2016

ABSTRACT : Tomato (*Solanum lycopersicum* L.) is the most important horticultural crop worldwide. Improvement in plants has invariably been dependent on the genetic diversity available in the regions of diversity of cultivated plants. Thus, the genetic background of tomato and its breeding values are to be evaluated before carrying out an improvement programme. Fifteen commercial varieties, nine exotic genotypes and three wild species were analysed for the study of different morphological characters present in tomato in Indian condition. High genotypic coefficient of variation (GCV) and phenotypic coefficient of variation (PCV) were observed for number of fruits per plant; high broad sense heritability and high genetic advance as per cent of mean was registered for number of fruits per plant. Highest fruit yield was found in EC 620421 (796.09 q/h) followed by IIHR 2620 (699.82 q/h), high TSS in *Solanum chilense* (7.1%) followed by Azad T-5 (7.0) and acidity in Azad T-2 (0.92%) followed by IIHR 2620 (0.86%). The genotypes may use for improvement of functional fruit and quantitative character in future breeding programmes.

Key Words: Tomato, variability, heritability, genetic advance, yield, quality.