GENETIC EVALUATION OF SOME GENOTYPES OF TOMATO FOR HEAT TOLERANCE

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ABSTRACT

High temperature is a major constraint in any vegetable cultivation, particularly to tomato production in the tropics and subtropics of the world. The day and night temperatures of more than 32°C and 21°C are known to limit fruit set of tomato due to impairment of complex physiological process involved during flowering and fruit developmental stages. Hence, the study was conducted to know the genetics of heat tolerance of tomato. The results revealed that the characters *viz*., yield per plant, single fruit weight, number of fruits per plant, number of fruiting clusters per plant, short styled flowers per plant an fruit setting percentage exhibited high heritability coupled with high genetic advance as per cent of mean and possibly controlled by additive genes. These traits, namely, short styled flowers per plant, fruit setting percentage, number of fruits per plant, single fruit weight, auxins, gibberallins, proline content, pollen viability and pollen germination were significantly and positively correlated with yield per plant.

Key words : genetic evaluation, tomato, heat tolerance