

Study on Proline Content of Few Tolerant and Susceptible Genotypes of Chickpea

Vidya Singh, Sanjukta Munda, Anshuman Tiwari and R. Sadhukhan

*Department of Genetics and Plant Breeding
Bidhan Chandra Krishi Vishwavidyalaya,
Mohanpur:Nadia, West Bengal-741252
E-mail: purplecrystal.1992@gmail.com*

Abstract—*The experiment was conducted in the laboratory of the department of Genetics and plant Breeding, B.C.K.V., Mohanpur, Nadia, West Bengal in the year 2015-16 to study the response of proline content of few tolerant and susceptible genotypes of Chickpea (Cicer arietinum L.). In this experiment 10 genotypes namely ICCV 93511, GJG 0814, 24001-4-1, IPC 2011-70, 24004-3-1, ICCV 13317, ICCV 13316, ICCV 13308, FLIP07-3C and GG4 were used. Analysis of variance revealed a significant inter-genotypic difference with respect to proline content. Among the susceptible genotypes under control ICCV 95311 and 24001-4-1 recorded significantly higher mean, whereas two genotypes viz., ICCV 13316 and ICCV13308 from the tolerant group exhibited higher mean for proline content. However, due to drought treatment, significantly higher mean was observed for four tolerant genotypes ICCV 13317, ICCV 13316, ICCV 13308 and FLIP07-3C but none of the susceptible could do so. There was substantial increase in the leaf proline content in all the genotypes due to imposition of drought stress over that of respective control. However the tolerant genotypes account a greater percentage of increase of proline as compared to susceptible one.*

Keywords: *Chickpea, drought, proline.*