



Post Harvest Quality Analysis of Chickpea Seeds Grown under Rainfed Conditions

Harpreet K. Oberoi, Anil K. Gupta¹, Satvir Kaur¹, and Inderjeet Singh

Department of Plant breeding and Genetics and ¹Department of Biochemistry,
Punjab Agricultural University, Ludhiana-141004, India
Email: harpreetoberoi@pau.edu

Abstract: The present two year study was designed to investigate the post harvest quality of chickpea seeds comprising two drought tolerant (*desi* - PDG 3 and PDG 4) and five drought susceptible (*desi* - PBG 1, GPF 2, PBG 5 and *kabuli* - L 550 and BG 1053) cultivars grown under rainfed and normal recommended irrigated conditions. Under rainfed grown chickpea cultivars mature seeds exhibit decrease in starch that might be the reason for observed increase in total sugars content compared to normal irrigated conditions whereas rainfed conditions led to decrease in total proteins. Reduced water availability resulted in decreased Fe content but increase in Zn content in mature seeds of almost all the chickpea cultivars. Higher phytic acid noted might have resulted in lower Fe levels. Proline and total phenols were found to increase under rainfed conditions and tolerant cultivars were seen have more accumulation of these non-enzymatic antioxidants. Lower levels of saponins and trypsin inhibitors were noticed due to rainfed grown conditions which are nutritionally desirable. Therefore, the study revealed that rainfed can induce variation in chickpea seed quality and further investigations are needed to enhance our understanding of how different abiotic stresses effect early seed development.

Keywords: Post harvest seed, Chickpea, Rainfed conditions, Quality, Minerals
