

Effect of Waterlogging on Certain Physiological Parameters of Redgram (*Cajanus cajan* (L.) Millsp)

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ABSTRACT

A pot culture experiment was conducted at Department of Crop Physiology, S.V. Agricultural College, Tirupati during kharif 2013 to know the effect of waterlogging on certain Physiological parameters of Redgram (*Cajanus cajan* (L.) Millsp). The experiment was conducted in a split pot design with different time periods of waterlogging as main treatments and genotypes as subplots. LRG 30, Maruti and Asha were the genotypes tested. Waterlogging affected all the physiological and growth parameters viz., Plant height, number of primary branches, total dry matter, leaf dry matter, root dry matter, leaf area, leaf area index, leaf area duration, specific leaf area, specific leaf weight and crop growth rate. The three different periods of stress imposition were 40 DAS (vegetative stage), 80 DAS (reproductive stage) and 120 DAS (pod formation stage). Sensitive stage for different physiological and growth parameters were recorded. Water logging at 40 DAS affected plant height and crop growth rate. When stress was imposed at 80 DAS number of primary branches, leaf area, SLA, LAI and SLW were affected. A greater decrease in leaf area, total dry matter, leaf dry weight and dry weight was observed when stress was imposed at 120 DAS. The present study forms a physiological basis to understand the sensitive stage of redgram to waterlogging stress.

Key words : Growth parameters, Redgram, Waterlogging, physiological.