# Studies on Genotypic Variability for Water use Efficiency and Thermo Tolerance in Greengram Genotypes under Imposed Moisture Stress Conditions

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**ABSTRACT**

A field experiment was conducted at Wet land farm of S.V.Agricultural College Tirupathi to study the genotypic variability for water use efficiency and thermo tolerance in greengram during *rabi* 2010-2011. The results revealed that among the drought tolerant traits used to evaluate greengram genotypes, water use efficiency traits like specific leaf area (SLA), SPAD chlorophyll meter readings (SCMR) and high temperature tolerance traits like chlorophyll fluorescence (Fv/Fm) were significantly reduced under moisture stress conditions compared to irrigated control. However stress at both phenophases showed more or less similar reduction in values of SLA,SCMR and Fv/Fm values .A significant positive correlation between SCMR and WUE and a negative correlation between SCMR and SLA were observed and were already established as good drought tolerant traits .An inverse relationship was observed between the SLA and seed yield and SCMR and seed yield .Among the genotypes tested ,MGG357 recorded moderate WUE traits SCMR ,SLA and moderate temperature tolerance in terms of higher PSII activity .

**Key words :** Greengram, SCMR, Specific leaf area, Thermo tolerance, Water use efficiency