

Influence of Agriphotovoltaics on performance of turmeric (*Curcuma longa* L)

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ABSTRACT

An experiment was conducted to integrate turmeric crop production under the GM-APV system, so as to analyse the performance and also elaborate the feasibility of the concept. The experiment was conducted using randomized block design with five treatments as growing conditions of the turmeric crop having three replications. The details of treatments were T_1 -Sole 3.75 m panel, T_2 -Sole 1.75 m panel, T_3 – Turmeric below 3.75 m panel, T_4 -Turmeric between 3.75 m panel, T_5 -Turmeric below 1.75 m panel, T_6 - Turmeric between 1.75 m panel and T_7 Open conditions (Sole Turmeric). Results revealed that different GM APVs influenced the growth and yield parameters of turmeric cultivar Salem significantly, except emergence count at 60 DAP which differed non significantly. The treatment T_3 where turmeric planted below 3.75 m recorded significantly more number of tillers clump⁻¹ (3.96), pseudostem height clump⁻¹ (32.50 cm), number of leaves clump⁻¹ (22) and leaf area clump⁻¹ (72.60 cm²), Chlorophyll content (35.40 Spad), crop duration (306.48 days), rhizome yield plant⁻¹ (0.65 kg), fresh rhizome yield ha⁻¹ (40.70 t) and dry rhizome yield ha⁻¹ (8.75 t).

Keywords: Ground mounted agrivoltaic systems, growth, turmeric, yield.