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Effect of spacings and varieties on growth, yield and economics of transplanted Red gram (*Cajanus cajan*)

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Field experiments were conducted during *Kharif* (2011-12 and 2012-13) on transplanted red gram (*Cajanus cajan*) with four spacings and five varieties in Vertisols (Black-cotton soils) at Agricultural Research Station, Tandur, Ranga Reddy District, Telangana state, India. The experiment was conducted in split plot design with spacings (4 No.) in the main plot (S1: 90×60 cm, S2: 120×90 cm, S3: 150×120 cm and S4: 180×120 cm) and with varieties (5 No.) in the sub-plot (V1: Asha, V2: PRG-158, V3: Maruthi, V4: Laxmi and V5: MRG-1004). Results of the pooled analysis (two years) of the trial revealed that growing of redgram at 90×60 cm(S1) recorded the highest seed yield (3532 Kg/ha) but it is on par with transplanting at 120×90 cm i.e., S2 (3193 Kg/ha). The S2 treatment has registered the highest benefit cost ratio because of it low cost of cultivation as the population of S2 is nearly half of the population of S1. On par yields of S2 with S1 was because of its increased growth and yield attributes parameters at wider spacing like primary, secondary branches, Stem girth, total dry matter production, harvest index, pods per plant and test weight which were expressed to its highest potential favoring for the best yield expression under transplanted conditions. The lower seed yields in S3 and S4 was because of its very low plant population even though the yield attributing factors are higher. Of the five test varieties Asha (ICPL 87119) recorded significantly highest seed yield of 3401 Kg/ha followed by PRG 158 (3033 Kg/ha) because of its harvest index (27.2), pod per plant and test weight. Asha variety reported the highest benefit cost ratio of 4.1 owing to highest net returns. Transplanting of Red gram at 120×90 cm in vertisols during *Kharif* helps the farmers in harvesting the highest seed yields.

Biography

C Sudha Rani has completed her PhD from Acharya N G Ranga Agricultural University, Andhra Pradesh, India. She is working as Professor (Agronomy) and Head of Agriculural Research Station, Tandur, Ranga Reddy District, Telangana State. She has published more than 30 papers in reputed journals.

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