

EFFECT OF DIFFERENT PLANTING SYSTEM AND SULPHUR LEVEL ON YIELD AND QUALITY OF CASTOR (*RICINUS COMMUNIS* L.) INTERCROPPED WITH CLUSTERBEAN [*CYAMOPSIS TETRAGONOLOBA* (L.) TAUB] UNDER BAEL BASED AGRI-HORTI SYSTEM

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Abstract: A field experiment was conducted during *kharif* season of 2013-14 at Agricultural Research Farm, Rajeev Gandhi South Campus (Banaras Hindu University), Barkachha, Mirzapur, Uttar Pradesh, to investigate, "Effect of different planting system and sulphur level on yield and quality of castor (*Ricinus communis* L.) intercropped with clusterbean [*Cyamopsis tetragonoloba* (L.) Taub] under bael based agri-horti system". The treatment comprised of 4 different planting systems (PS₁ =1:2), (PS₂ =1:4), (PS₃ =1:6), (PS₄ =1:8) as main plots and 3 levels of sulphur (S₁ =25 kg ha⁻¹), (S₂ =50 kg ha⁻¹), (S₃ =75 kg ha⁻¹) as sub plots replicated thrice in a split-plot design. Significantly improvement in the yield and yield attributes and quality of castor and clusterbean component crops was observed under PS₃, (1:6) treatment and application of (S₂), (50 kg ha⁻¹) recorded significantly higher, yield and yield attributes parameters and stalk yield of castor and clusterbean parameters. Similar effect of these treatments was observed on N, P, K, and Sulphur content and total uptake in grain and straw of castor and clusterbean treatments. And also recorded higher gross return (133955 Rs. ha⁻¹) with net returns (116285 Rs. ha⁻¹), and B: C ratio (6.58) under PS₃, (1:6) treatment.

Keywords: Planting system, Castor, Clusterbean, Sulphur, Intercropping, Bael, Agri-horti system

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