

RESEARCH ARTICLE :

Efficacy of sulphur on growth, yield and quality of blackgram in Typic Haplustert and Typic Rhodustalf in soils of Tamil Nadu

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SUMMARY : Sulphur is an essential element for plant growth because it is present in major metabolic compounds such as amino acids (methionine and cysteine), glutathione, proteins, and sulpho lipids in oil seeds and pulses. Pulses are particularly sensitive to S deficiency, which imparts the low quality of seeds and yield. Therefore, the investigation was assessed with three different S sources as Gypsum, Ammonium sulphate and Potassium sulphate were tried at two levels (S @ 10 and 20 kg ha⁻¹). Field experiment were conducted during rabi season of 2014 to study the effect of yield and quality of irrigated blackgram as influenced by the sulphur application in Peelamedu (Typic Haplustert) and Vylogam series (Typic Rhodustalf). The result revealed that, the highest growth parameters such as plant height (54.7 cm, 55.9 cm), Number of leaves plant⁻¹(54.8, 58.8), Number of pods plant⁻¹(34.7, 38.8), Number of seed pod⁻¹(7.4, 8.4) like yield parameters such as grain (1145, 1275 kg ha⁻¹) and straw yield (1645, 1990 kg ha⁻¹) and quality parameters viz., protein (23, 24.2 %) and methionine (8.92, 8.97 mg g⁻¹) were significantly increased by the different S sources when compared to control in Vylogam and Peelamedu series. Irrespective of the different S sources, S @ 20 kg ha⁻¹ as K₂SO₄ coupled with recommended dose of fertilisers plus 0.5 % K₂SO₄ foliar spray at 30th and 45th DAS were significantly registered better response in blackgram at both the series. The synergistic effect of sulphur with NPK fertilisers on blackgram growth, yield and quality characters in alfisols and vertisols of Tamil Nadu.

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