

Influence of Soil Applied Boron on Yield and Nutrient uptake of Black gram (*Vigna mungo* L.) grown in Calcareous soils

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ABSTRACT

A green house experiment with blackgram grown on boron (B) deficient calcareous soils was conducted at Agricultural College, Bapatla to study the influence of soil applied boron on yield and uptake of blackgram (var. PU-31) during 2015-16. Five soils with calcium carbonate content 1.08 (Soil I), 5.25 (Soil II), 10.37 (Soil III), 16.20 (Soil IV) and 17.75 (Soil V) per cent were collected from different sites of Sattenapalli mandal which falls under Krishna western delta system of Andhra Pradesh. The treatment comprised of four levels of boron viz. 0, 0.25, 0.50 and 0.75 mg B kg⁻¹ supplied as boric acid laid out in completely randomized block design and replicated thrice. Different levels of boron had more influence on mean biomass production and seed yield. The mean total boron uptake at harvest varied from 38.73 to 67.14 µg pot⁻¹ in blackgram. The highest mean seed yield of 1.67 g pot⁻¹ was recorded by the addition of 0.75 mg B kg⁻¹ followed by 0.25 mg B kg⁻¹ (1.55 g pot⁻¹), and control (1.40 g pot⁻¹). Soil I (1.08% CaCO₃) which received B @ 0.25 mg kg⁻¹ (B₁) was found sufficient to produce optimum seed yield of blackgram although maximum yield obtained with application of B @ 0.50 mg kg⁻¹ soil (B₂) was on par with B₁ level. For all other soils having more than 1.08% CaCO₃ content, the yields were increased with increase in B doses.

Key words: Boron content, Black gram, Calcareous soils, Seed yield, Soil applied Boron.