



A Review on Effect of Phosphorus and Sulphur on Growth, Productivity and Nutrient Uptake of Green Gram (*Vigna radiata* L.)

Sailasuta Sahu*, Tanmoy Shankar, Sagar Maitra, Sameer Mohapatro and GVVSN Swamy

Department of Agronomy, M. S. Swaminathan School of Agriculture Centurion University of Technology and Management, Paralakhemundi, Odisha, India

*Corresponding author: sahusailasuta@gmail.com

ABSTRACT

Green gram (*Vigna radiata* L.) is one of the important pulses grown in different seasons in India. For satisfactory yield, nutrients management is essential in green gram. As a legume species it can fix nitrogen biologically and so nitrogen demand is less compared to other macronutrients. Phosphorus (P) is a crucial element in the production and metabolism of pulses and it is also a significant limiting nutrient in most of the Indian soils. In all soil types, phosphorus deficiency is typically the main factor in the seed yield of pulse crops. Phosphorus promotes early root development, improves rhizobia activity enhancing root nodules for biological nitrogen fixation (BNF). Phosphorus is the integral element of ATP, the plant energy unit. Another important microelement is sulphur which takes part in protein synthesis. Further, sulphur is an essential constituent of cystine, cysteine, and methionine. To obtain greater yield and quality of green gram, fertilization of P and S is crucial. This article gives an information on the effect of phosphorus and sulphur on various growth and yield attributes and productivity of green gram.

Keywords: Green gram, phosphorus, sulphur, growth, yield, nutrient uptake

Since prehistoric times, green gram (*Vigna radiata* L.) has been cultivated in India. It is also known as moong bean and acts as the main food source for most people. The grain pulses are vital foodstuff in all tropical and subtropical countries (Mohbe *et al.* 2015 and Ghosh *et al.* 2020). The United Nations has proclaimed the 2016 International Year of Pulses (IYP) to raise public awareness of the food value of pulses for food and nutrition. India produces the largest quantity of pulses in the world (25% of world production) and also consumes the most (27% of world consumption). To meet the domestic India imports pulses. Pulses are certain plant species that belong to the Fabaceae family. They are having dual

importance as food and animal feed for livestock. Among different pulses, green gram or moongbean is rich in protein and it also contains riboflavin and thiamine, phosphorus and iron (Patel *et al.* 2013). Green gram is comprised of lysine (4600 mg/g N) and tryptophan (60 mg/g N). Dotaniya *et al.* (2019). Phosphorus is necessary for the conversion of the chief biochemical reaction in plants both as part

How to cite this article: Sahu, S., Shankar, T., Maitra, S., Mohapatro, S. and Swamy, GVVSN. (2020). A Review on Effect of Phosphorus and Sulphur on Growth, Productivity and Nutrient Uptake of Green Gram (*Vigna radiata* L.). *Agro Economist - An International Journal*, 7(2): 91-93 (Special Issue), November 2020.

Source of Support: None; **Conflict of Interest:** None

