



RESEARCH PAPER

Response of different liming materials and phosphorus levels on soil properties and soybean yield on a dystrodept of Nagaland

L. Somendro Singh* and P.K. Singh

Department of Agricultural Chemistry and Soil Science, School of Agricultural Sciences, Medziphema Campus,
Nagaland University, Medziphema (Nagaland) India (Email : lairensomen@gmail.com)

Abstract : A split plot design (SPD) with sixteen treatments and replicated thrice during the *Kharif* season of 2018 and 2019 was conducted to evaluate the response of different liming materials and levels of phosphorus on yield attributes, soil properties and yield of soybean [*Glycine max* (L.) Merr.]. Application of liming materials and P levels significantly increased pods plant⁻¹, 100 seed weight, grain and stover yield. Interaction effects of different liming material and P levels were also significant for number of pods plant⁻¹, stover and grain yield. The highest yield was recorded with an application of calcium silicate @ 0.4 LR along with 80 kg P₂O₅ ha⁻¹. The maximum uptake of N, P, K, S and Ca were found with CS @ 0.4 LR and 80 kg P₂O₅ ha⁻¹. Their interaction was significantly influenced in nutrients uptake by soybean. Application of liming materials of CS @ 0.4 LR increased with pH-5.41 from the initial pH 5.31. The highest OC % was found in the plots receiving CS @ 0.4 LR (1.17%) and 80 kg P₂O₅ ha⁻¹ (1.24%). The available N, P and exchangeable Ca²⁺ and Mg²⁺ in soil increased by application of different liming materials and phosphorus levels and their interaction.

Key Words : Dystrodept, Liming materials, Phosphorus, Soil properties, Soybean, Uptake, Yield

View Point Article : Somendro Singh, L. and Singh, P.K. (2024). Response of different liming materials and phosphorus levels on soil properties and soybean yield on a dystrodept of Nagaland. *Internat. J. agric. Sci.*, **20** (RAAEALSES) : 11-19, DOI:10.15740/HAS/IJAS/20, RAAEALSES-2024/11-19. Copyright©2024: Hind Agri-Horticultural Society.

Article History : Received : 15.10.2024; Accepted : 25.10.2024