

EVALUATION OF GROUND EGGSHELL AS A LIMING MATERIAL IN A TROPICAL ALFISOL IN SOUTHWESTERN NIGERIA

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ABSTRACT

The effectiveness of eggshell containing 54 % Ca as a liming material was evaluated with incubation and greenhouse experiments on a slightly acidic soil in southwestern Nigeria. Eggshell increased soil pH over the application of CaCO_3 due to concomitant increase in soil Ca with increasing application rate and period of incubation. This is attributed to the solubility of the liming material over the period of 8 weeks. The trend was similar in the greenhouse study except that the soil Ca content reduced perhaps due to plant uptake. Eggshell increased maize dry matter yield up to 9.6 tons ha^{-1} while the application rate beyond 2.4 ton ha^{-1} depressed Ca uptake. Eggshell powder can be a viable alternative for liming particularly for poor resource farmers, however, field verification of the findings is recommended.

Key words: Eggshell powder; commercial lime; soil acidity; calcium