

Shell Lime: An Eco-Friendly and Cost-Efficient Alternative for Agricultural Lime

Authors : Hene L. Hapinat, Mae D. Dumapig

Abstract : This study aimed to determine the lime potential of 3 mollusks, namely: *Crassostrea iredalei* (Oyster shell), *Turritella terebra* (Turret shell), and *Anodonta edentula* (Mangrove clam shell) as alternative for commercially produced agricultural lime. The hydrogen ion concentration (pH) and the lime concentration using Calcium Carbonate Equivalent (CCE) of each shellfish species were measured and tested for the enhancement of an acidic soil. The experiment was laid out in a Completely Randomized Design (CRD) with 4 treatments replicated 3 times. The treatments were as follows: Treatment A- 100 g agricultural lime; B- 100 g oyster shell lime; C- 100 g turret shell lime; and D- 100 g mangrove clam shell lime. Each treatment was combined to the acidic soil sample. The results were statistically analyzed using One-way Analysis of Variance (ANOVA) and Least Square Difference (LSD) at 0.01 and 0.05 levels of significance. Results revealed that lime produced from the 3 selected mollusks can be a potential source of alternative and/or supplement materials for agricultural lime in dealing with soil acidity, entailing lower cost of farm production.

Keywords : shell lime, pH, calcium carbonate concentrations, mollusks, agricultural lime, lime potential concentration, acidic soil

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