

Field Application of Reduced Crude Conversion Spent Lime

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Abstract : Gypsum is being applied to ameliorate subsoil acidity and to overcome the problem of very slow lime movement from surface lime applications. Reduced Crude Conversion Spent Lime (RCCSL) containing anhydrite was evaluated for use as a liming material with specific consideration given to the movement of sulfate into the acid subsoil. Agricultural lime and RCCSL were applied at 0, 0.5, 1.0, and 1.5 times the lime requirement of 6.72 Mg ha⁻¹ to an acid Trappist silt loam (Typic Hapuldult). Corn [*Zea mays* (L.)] was grown following lime material application and soybean [*Glycine max* (L.) Merr.] was grown in the second year. Soil pH increased rapidly with the addition of the RCCSL material. Over time there was no difference in soil pH between the materials but there was with increasing rate. None of the observed changes in plant nutrient concentration had an impact on yield. Grain yield was higher for the RCCSL amended treatments in the first year but not in the second. There was a significant increase in soybean grain yield from the full lime requirement treatments over no lime.

Keywords : soil acidity, corn, soybean, liming materials

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