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Dynamics of Soil pH and Electrical Conductivity with the Application of Three Animal Manures

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A laboratory incubation experiment was conducted to determine the dynamics of soil pH and electrical conductivity (EC) in a soil to which three animal manures [poultry (PM), cattle (CM), and goat (GM) manures] had been applied. The result of this study showed that the manures differed in qualities. Poultry manure had significantly greater EC and dissolved salts compared with the other manures, whereas the pH of cattle and goat manures are significantly greater than that of PM treatment. The liming effect of the manures was only for about 30 days after manure incorporation, and it varied with manure type and incubation period. There was an increase in EC as days of incubation increased. The potential of manure-induced soil salinization is very high in PM and GM. It was concluded that manure quality and use should be synchronized with consideration of their liming potential and reduced salinization effect.

Keywords Animal manures, liming, soil salinity