POULTRY MANURE IS A VALUABLE SOURCE OF ORGANIC MATTER, NUTRIENTS AND LIME

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Abstract

The effects of applications of poultry manure on soil properties are reand 3-4.5% respectively and also a substantial P, K, Ca and Mg content. Layer poultry viewed and discussed. Poultry manure has a high pH (7.5-8.5), a C and N content of 25-40% manure has a high $CaCO_3$ content due to its presence in feed rations. Repeated applications of poultry manure to soil characteristically increase soil organic matter content, and this tends to improve soil physical properties. The bulk of the N in manure is in uric acid, which is rapidly converted to ammonium. Substantial losses of manure-N (30-50%) through NH_3 volatilisation can occur during storage, handling and application, so it is important to use practices that conserve manure-N. The P content of poultry manure is about half that of N and, as a result, when manure applications are based on recommended fertiliser N rates, large amounts of P can accumulate in the surface soil. Increases in pH and exchangeable Ca, Mg and K also occur in the topsoil. Repeated, long term applications of poultry manure can also result in an increase in pH and exchangeable Ca, Mg and K, and a decrease in exchangeable Al in the subsoil (e.g. 10-60 cm) below the depth of manure incorporation (e.g. 0-10cm). The main mechanism for this appears to be the leaching of cations and slow downward movement of alkalinity. It is concluded that poultry manure is a valuable soil amendment and that its application can improve soil organic matter content and soil nutrient status.

Keywords: sugarcane, fertiliser, manure, organic matter, soil amendment