

Effects of extraction and fractionation time on the yield of compost humic acids

ABSTRACT

The yield of humic acids (HA) partly depends on the period of isolation (extraction and fractionation), extractants used, and conditions such as temperature, pre-treatments, and compost:extractant ratios of extraction. This study was conducted to investigate whether a relationship could be separately established between extraction time, fractionation time, and the yield of HA from composted pineapple (*Ananas comosus*) leaves, as well as the relationship between both variables (extraction time and fractionation time) on the yield of HA from this compost. Standard procedures (with some modifications) using 0.1M NaOH were used to isolate HA from compost. Although there was a quadratic relationship between extraction time and HA yield, there was no relationship between fractionation time and HA yield. This observation enables the isolation of HA of compost within 24 h or less instead of the existing average time of 48 h, hence helping in facilitating the idea of producing potassium humate as a foliar potassium fertiliser from composted pineapple leaves and related crop residues instead of open burning, a practice that has undesirable environmental effects. © The Royal Society of New Zealand 2005.

Keyword: Humic acid; Pineapple leaves; Trend analysis