

A modified way of producing humic acid from composted pineapple leaves

ABSTRACT

Purification of humic acid (HA) is time-consuming (takes between 2 to 7 days). A study was conducted to investigate whether HA produced from composted pineapple leaves could be purified within a day through washing with distilled water. Standard procedures were used to produce 0.1, M KOH and pineapple leaves compost. The KOH was used to extract HA in the compost using standard methods with some modifications. The HA was purified by suspending it in 100 ml distilled water, equilibrated for 1 hour, centrifuged for 15 minutes, supernatant decanted, filtered through glass wool and the liquor analyzed for K, Ca, Mg, Na, Zn, Mn, and Cu using an atomic absorption spectrophotometer (AAS). This procedure was repeated four times after which the washed HA was oven dried at 30°C to a constant weight. Washing HA for four consecutive times within a day was able to reduce the ash content of the HA to 0.1%, a value less than the generally accepted value of less than 1%. This observation was attributed to the remarkable decrease in K, Ca, Mg, Na, Zn, Mn, and Cu with washing. This finding can help in facilitating the production of K-rich humate (organically based fertilizer) from composted pineapple residues in a relatively short time since the HA can be purified within a day for its reconstitution to produce K-humate (38% K) instead of the conventional method that takes between 2 to 7 days. © 2004 by The Haworth Press, Inc. All rights reserved.

Keyword: Ash; Compost; Humic acid; Pineapple leaves