



Influence of sewage sludge and organic composts on different soils under incubation periods: II. Heavy metals (Pb, Cd and Ni) releases.

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Abstract : This incubation experiment was conducted to evaluate the effect of different rates of sewage sludge (11, 22 and 44 ton fed^{-1}) alone or in combination with three rates of banana Compost (BC) and/or cotton compost (CC) on release of extractable Pb, Cd and Ni from two different soils during incubation period up to 15 months.

The obtained results can be summarized in the following:

-Heavy metals (Pb, Cd and Ni) gradually increased with increasing the incubation period up to the end of 15 months.

-Heavy metals (Pb, Cd and Ni) under all the incubated organic manure treatments were remarkably higher than those obtained by control treatment. These results are true for Abou-Rawash sandy soil and El-Nobaria sandy calcareous soil as well as the incubation periods.

-The incorporation of the $\text{SS}_{44}\text{BC}_{22}$ or $\text{SS}_{44}\text{CC}_{22}$ treatments in both soils at the different incubation periods significantly increased Pb, Cd and Ni under study when they compared with $\text{SS}_{22}\text{BC}_{22}$ or $\text{SS}_{22}\text{CC}_{22}$ treatments as well as $\text{SS}_{11}\text{BC}_{22}$ or $\text{SS}_{11}\text{CC}_{22}$ respectively.

-The levels of the studied heavy metals could be arranged according to their concentrations in the decreasing order of: $\text{Pb} > \text{Ni} > \text{Cd}$.

-It has been found that the incubation of SS and organic composts to agricultural land increased the release of heavy metals (Pb, Cd and Ni) in Abou-Rawash sandy soil than those in El-Nobaria sandy calcareous soil.

Key words : Sewage sludge- Banana compost- cotton compost- Zinc- Copper- Heavy metals.