

The Influence of Filter Mud Compost and *Tithonia diversifolia* Leaves on the Dissipation of Diuron in Soils within the Nzoia River Drainage Basin, Kenya

## Abstract

The aim of the study was to evaluate the environmental impact of filter mud compost and *Tithonia diversifolia* amendments on the dissipation of diuron in sugarcane cultivated soils. Filter mud compost is the by-product of sugarcane processing, while *T. diversifolia* is a common local plant that grows within the study region. The dissipation of diuron was significantly enhanced with  $DT_{50}$  of 15 and 16 days ( $p < 0.05$ ) in soils amended with filter mud compost and *T. diversifolia*, respectively compared to 26 days in non-amended soils. Residues of 0.93 %, 1.83 % and 5.40 % of the initial applied diuron were recorded at the end of the experiment in the three treatments, respectively. The residues of 3,4-dichlorophenylmethylurea metabolite were 22.93 %, 25.92 % and 30.93 %, while 10.19 %, 12.19 % and 15.46 % of 3,4-dichloroaniline metabolite remained in soil after 112 days in the three treatments, respectively.

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