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EFFECTS OF TANK SILT ON THE GROWTH OF

Zea mays L.

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EASTERN UNIVERSITY

SRI LANKA

2010.

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Date: 2010/10/10

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ABSTRACT

Tank silt is an organic sediment which can be collected from tanks / ponds during the dry season. This experiment was conducted in order to study the response of different quantity of tank silt as alternative organic manure instead of the fertilizers recommended by the Department of Agriculture (DOA). Experiment was conducted in maize plants (*Zea mays* L.). Treatments were T₁, T₂, T₃ and T₄ with the application of tank silt at the rate of 20, 30, 40 t/ha, respectively. While T₅ was according to the DOA recommendation and the T₆ is the control. The polyethylene bags (24 x 40 cm) were filled with the potting mixture to three fourth of its volume and the treatments were established as mentioned above.

Height of maize plant in T₅ significantly differed ($p < 0.05$) from other treatments from two week after sowing (WAS) to six WAS. However, no significant difference was observed between T₄ and T₅ at 8 WAS. Highest plant height was recorded in T₅. The treatments T₄ and T₅ shown distinguished difference compared to other treatments. The difference between T₄ and T₅ at 2, 4 and 6 WAS were 20.2, 21.6 and 16.7% respectively.

In the case of average fresh weight of leaves, stems and roots per plant in T₄ and T₅ significantly differed ($P < 0.05$) from the rest of the treatments, However, no significant difference between them were observed.

Further, average dry weight of leaves, stems and roots per plant in T₄ and T₅ significantly differed ($P < 0.05$) from rest of the treatments according to Turkey's test at 5% level of significance. However, no significant differences were observed between them.

Therefore, in conclusion that the application of tank silt at the rate of 50 t/ha produce plant growth nearly identical to the performance of plants grown with the recommendation of DOA. Hence, for the first time it has been proved that the farmers can utilize the freely available tank silt for better crop production with low cost. In addition, the practice of using naturally available organic manures will facilitate to minimize the environmental hazardous.

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