SPECIAL ORGANIC FERTILIZER FORMULATION FOR IMPROVED HIGH YIELDING CROPS: MUNICIPAL SOLID WASTE AS THE MAJOR FEEDSTOCK (without applying the developed fertilizer for high yielding crops and field testing this title cannot be considered)

Suggested title : SPECIAL ORGANIC FERTILIZER FORMULATION From MUNICIPAL SOLID WASTE AS THE MAJOR FEEDSTOCK

Targeting high yielding crops, special organic fertilizer formulations made from municipal
solid waste were studied at Balangoda Municipality.
Nine static windrows were used to compare two treatments with a control which were
replicated three times. They were: (i) municipal organic solid waste(MOSW) + old
compost; (ii) MOSW+gliricidia+ERP (Eppawala rock phosphate)+sawdust with
biofertilizer; (iii) MOSW+ gliricidia+ ERP+ banana waste+ sawdust with biofertilizer and
biocharcoal as additives. Biofertilizer was used to introduce beneficial microorganisms
and biocharcoal was used to enhance the microbial activity and to neutralize possible
contaminants. Pine soil and natural forest soil were used to make the effective microbial
culture. After 21 days, samples were analysed for chemical properties in particular. The
pH of the compost was slightly alkaline in T2 and T3 compared to the control. Treatments
with saw dust and biochar showed higher pH values (reason??). Among all the treatments, T3 showed
the highest pH value (8.04±0.003). The EC (electrical conductivity) was high in control
than other treatments. In the control, 95% of the feedstock was MOSW. Compared to T2,
T3 showed the highest EC value (possible reasons should be mentioned). Available phosphorous concentration was higher in T2
and T3 than that of control (what would be the reason??) . Addition of ERP and microbial culture has led to increase
phosphorous solubility (how much). The treatment with biochar, T3 showed the highest phosphorous
content. However, the available potassium content was the same in control and T3. When
compared to the T2, T3 show higher potassium content because T3 was prepared with
banana waste as additional potassium source. Thus, it can be concluded that MOSW can
be used as a feedstock to produce high quality organic fertilizers for high yielding crops.
Microbial inoculum produced has been effective in increasing phosphorous fertility status
of the fertilizer. Addition of bio charcoal in to the compost has significantly improved the
phosphorous nutrient status of the organic fertilizer. Banana waste appears to be an
effective potassium source.