Production of liquid organic fertilizer using *Tithonia diversifolia*, *Gliricidia sepium* and poultry manure

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Abstract: Organic fertilizers reduce the adverse impacts of synthetic chemical fertilizers. The objective of this study is to formulate liquid organic fertilizer using selected plant materials i.e., *Tithonia diversifolia*, *Gliricidia sepium* and poultry manure. Then nutritional content of the prepared liquid organic fertilizer was compared with Sri Lanka standards liquid organic fertilizer. The experiment consisted of five treatments with three replicates in completely randomized design was carried out at Rice Research and Development Institute, Bathalagoda, Sri Lanka. The treatments were poultry manure mixed with *Gliricidia sepium*, poultry manure mixed with *Tithonia diversifolia*, poultry manure mixed with *Gliricidia sepium* and *Tithonia diversifolia*, poultry manure without plant material and control. All the treatments contained top soil, jaggery and water. The pH and electrical conductivity of prepared liquid organic fertilizer were acceptable range in all treatments. Liquid organic fertilizer with the combination of *Gliricidia sepium* and *Tithonia diversifolia* exhibited the highest concentration of Phosphorus and Potassium. It was in the treatment which consisted of *Gliricidia sepium*, *Tithonia diversifolia* and poultry manure. At the same time highest Nitrogen concentration was observed in poultry manure mixed with *Gliricidia sepium*. According to the results nutrient content was acceptable range in treatments which were consisted poultry manure mixed with *Gliricidia sepium*, poultry manure mixed with *Tithonia diversifolia*, poultry manure mixed with *Gliricidia sepium* and *Tithonia diversifolia* and poultry manure without plant materials.

Keywords: Cell division classification, CNN, Microscopic images, Mitotic cell classification.