

**INFLUENCE OF VERMICOMPOST
TECHNOLOGY ON SOLUBILITY OF
EPPAWALA ROCK PHOSPHATE
(ERP)**

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ABSTRACT

The application of Eppawala Rock Phosphate could be an economic alternative to the use of imported fertilizer for certain crops and soil. But low solubility of it limits the direct application for annual crops. Vermicomposting is basically composting with worms and low soluble Eppawala Rock Phosphate can make use for annuals by means of biological conversion during vermicomposting. Therefore biodegradation is one of most suitable substitution ways to increase the solubility of rock phosphate by mixing with organic matter. The phosphorus in the soil is bound to organic matter in forms that are available to plants. It is now established that passage through the gut of some lubricid earthworms results in some of this phosphorus being converted to plants available. Fresh gliricidia leaves, fresh cowdung and panicum leaves were mixed 1:2:1 ratio as the basic composting mixture. Each treatment consisted of 04 kg of basic composting mixture. The treatments were T₁ (control), T₂ (earthworms), T₃ (earthworms + 100 g), T₄ (earthworms + 200 g), T₅ (without earthworms + 100 g), T₆ (without earthworms + 200 g).

Temperature, pH, Total Nitrogen, Available Phosphorus and Total Potassium of compost were measured in all treatments. The nutrients contents of each treatment was measured and compared with the control. Total Nitrogen was decreased in all treatments. But addition of Eppawala Rock Phosphate increased the available Phosphorus and it was higher in T₄ than T₃. Total Potassium content was increased in all treatment. Therefore, vermicomposting can be utilized to increase the solubility of Eppawala Rock Phosphate while increasing the available phosphorus in the end product.

Key Words: Earthworms, Vermicompost, Eppawala Rock Phosphate