POTENTIAL FERTILIZER APPLICATION OF WASTE MICA FROM FELDSPAR MINING SITES IN SRI LANKA

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ABSTRACT

Pegmatite mine which have been mined for feldspars contain higher value of biotite as accessory minerals. Biotite has been considering as waste materials and dump in nearby site. This resulted several environmental impacts. Therefore, the percent work aims to study the leaching pattern of element from biotite under different biochemical environment to use them as source of fertilizer. Deferent proportions of biotite (<125μm) were mixed with organic matter, surface soil, water and 2% citric acid. The mixtures were kept under controlled moisture and pH conditions. The water soluble ionic concentrations of different mixtures were measured and their variations with time were studied. Results showed that the releases of ions are highly heterogeneous in all samples. Biotite releases high concentration ions under wet acidic condition. Biotite released considerable concentrations of K, Fe, Na, Mg and Mn ions as fertilizer according to reference levels.

Keywords: Chemical fertilizer, Organic fertilizer, Biotite, Soil nutrients.