



Effects of Liquid Organic Fertilizer towards Acidity of Ex-Coal Mining Soil from Asam-asam Village, South Kalimantan

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Abstract: Open pit mining that commonly implemented in Indonesia has caused ecosystem damage, soil degradation, pollution, water sedimentation, and change of climates. A coal mining site in Asam-asam Villange, South Kalimantan happens the same way. The supporting capacity of topsoil post-mining activities left the area into low grade soil for the plants growth, which could be implied by one of its chemical characteristics, i.e. acidity (pH). Thus we attempt to improve the soil quality by using liquid organic fertilizer for the soil amendment. This paper was aimed to describe the effects of soil amendment by liquid organic fertilizer towards the acidity of the soil from ex-coal mining site Asam-asam Village, South Kalimantan. We used Complete Randomized Design for the experiment. Soil sample of Asam-asam Village was taken from PT. Jorong Barutama Grestone. Treatments of liquid organic fertilizer used for types of fertilizer, namely Formula, Nasa, Biofast, and Green Tonic. Dose variations are 3, 6, 9, and 12 liter per ha with 4 times repetition. Corn plants (Bonanza F1) also used for the biological improvement was planted after 2 days post fertilizing in polybag for six week. The results showed that the treatment of soil amendment by liquid organic fertilizer could improve the acidity condition. Liquid organic fertilizer Formula with dose 6 liter per ha was found to be significantly increase the soil acidity. We conclude that the liquid organic fertilizer is one of effective soil amendment for ex-coal mining site to be re-qualified for plants growth as future productive land area.

Keywords: acidity, coal mining, soil amendment.