

Amelioration Of Tropical Deep Peat For Lowland Vegetable Production¹⁾

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Abstract:

Lowland peat in Indonesia covers an area of about 27 million hectares, distributed over Sumatra, Kalimantan and Irian Jaya. Peat has good physical properties and is suitable for vegetable growth, but there are some chemical constraints: low pH and nutrient content.

Field observation in Pontianak, greenhouse and laboratory experiments in Yogyakarta showed that amelioration with wood ash, agricultural ash, and lime could improve the chemical peat properties and increase plant growth. Without nutrient addition peat ash as ameliorant resulted in better plant growth than with lime. The positive effect of P and K supply on plant growth was observed especially for wood ash and agriculture waste ash. This effect of ash on the uptake of P and K by maize was better than with lime, and increasing the rate of ameliorants increased the uptake of P and K.

Analyses of peat samples under different commodities in the Sungai Slamet area showed that nutrients under cultivation were accumulated in the toplayer. Increasing the intensity of cultivation increased the peat pH and the nutrient status.