

Impact of phosphate solubilizer fertilizer on phosphorus availability and potato yield in Andisols of Indonesia

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<b>Abstract</b>	Andisols are soil types formed in volcanic ash characterised by high adsorbed phosphate unavailable to plants. Farmers use manures to increase the availability of phosphorus in Andisols although this seems less than effective. The purpose of the research was to formulate a phosphate solubilizer fertilizer (PSF) to increase P solubility and enhance Andisols potato yields. PSF was made from chicken manure enriched with phosphate bacteria, Humic-fulvic (HF) acids and N-Acyl Homoserine Lactone. PSF effectiveness was tested in Pikovskaya and in Andisols to increase P solubility and enhance potato yield. The best of PSF formula based on P solubility was for chicken manure enriched with 4% HF acids and at 2% dose. The PSF P solubility efficiency in Pikovskaya was 51% and 80% in Andisols. Andisols potato yield at the same dose of PSF 20 Mg.ha(-1) compared to chicken manure enhanced with the some dose by up to 2 Mg.ha(-1).
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