

**GENESIS AND CLASSIFICATION OF SOIL ON SANDSTONE
AND PUMICE BRECCIA IN THE SEMILIR
FORMATION IN PONJONG DISTRICT, GUNUNGKIDUL REGENCY**

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ABSTRACT

Soil parent material originating from Semilir Formation constituent rocks, namely pumice breccia and sandstone found in Sawahan and Umbulrejo Villages, Ponjong district, will affect the formation, genesis and type of the soil. The purpose of this study was to identify the soil genesis based on differences in soil parent material and classify soil types. This study used a survey method by purposively determining profile points based on source rock, namely sandstone and pumice breccia. This study used 2 soil profiles; the first profile is in Sawahan Village with pumice breccia as the parent material, the second profile is in Umbulrejo Village with sandstone as the parent material. Parameters observed were soil texture, soil specific gravity (BJ) and bulk density (BV), pH (H₂O, KCl and K₂SO₄), DHL, KPK, Ca, Mg, K, Na, C-Organic and sand fraction analysis. The results showed that the soil developed from pumice breccia had diagnostic horizons, namely the umbric epipedon and argillic endopedon with advanced stages of soil development. Soils that develop from sandstone have diagnostic horizons, namely the umbric epipedon and cambic endopedon with young soil development stages. Soil that develops from pumice breccia has a soil classification according to the USDA Soil Taxonomy, are respectively Typic Paleudults; according to the National Land Classification are respectively Nitosol District; according to the World Reference Base for Soil Research, are respectively Loamic Abruptic Alisols. Soils that develop from sandstones have a soil classification according to the USDA Soil Taxonomy, are respectively Typic Dystrudepts; according to the National Soil Classification are respectively Eutric Cambisol; according to the World Reference Base for Soil Research, are respectively Clayic Eutric Cambisols

Keywords: Sandstone, Pumice Breccia, Semilir Formation, Soil Morphology, Soil Classification