

**Soil Ingestion and Associated Health Implications:
A Physicochemical and Mineralogical Appraisal of Geophagic
Soils from Moko, Cameroon**

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KEYWORDS Geophagia. Characterization. Benefits. Health Risk. Beneficiation

ABSTRACT Geophagia, the deliberate ingestion of soil has both beneficial and detrimental health effects. The positive and negative effects of geophagia may vary depending on the physico-chemistry, mineralogy and geochemistry of the soil. In this study, geophagic soils from Moko, Cameroon were physico-chemically and mineralogically characterised in order to ascertain their health implications. Colour, particle size distribution (PSD), consistency limits, pH, electrical conductivity (EC) and mineralogy of the soils were determined. The soils were predominantly yellowish in colour, silty in texture, with high plasticity. Soil pH ranged from 4.8 – 5 whereas EC was low ($\leq 12 \mu\text{S}/\text{cm}$). Kaolinite + quartz + mica + microcline + goethite + anatase \pm smectite \pm hematite \pm gibbsite were the identified mineral phases. Samples exhibited OH stretching and bending vibrations similar to that of theoretical kaolinite. Kaolinite enrichment in the soils, may positively influence the release of essential nutrients to the geophagic individuals through isomorphic substitution. Observed high plasticity and acidic pH, rendered the soils suitable for use as remedy for nausea associated with pregnancy. However, the gritty texture of the soil may present significant health concerns for the geophagic individuals.