

Characteristics of Soil Around Terelj-Davaat

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Study area is the valley of the West branch mountain of Baga Khenteyrange, where Terelj river outflow is encompassed to Gorkhi-Terelj national park neighboring to Khan Khentey strict area in Erdene soum of Tuv aimag, at a distance with 50-60 km from Ulaanbaatar.

According to Natural zonation of Mongolia, this area is located in southern compass of Khangay-Khentey vertical zonation of Central Asian region, whereas, along for Soil-Geographic zonation, this area is existed in 53th southern compass of Central Khentey, which has humid vertical zonation(Undesnii atlas).

Soil chemical, physical, and micro-biological analyses were done along for soil horizontal profile of Davaat gap and vertical profile from Davaat gap and Terelj riverside, and soil texture and structure were determined as well. As a result of field survey and laboratory analysis soil map scaled to M1:50000 was generated.

From the observing area, several kinds of soils are detected: mountain chernozem soil; meadow dark humic-gleyed soil; meadow boggy raw humic soil and alluvial demo soil.

Wet land soils is distributed in Davaat valley lodges, since continuous permafrost is existed in those area, and Davaat valley lodge is blocked by north-west side.

Mountain chernozem soil has thin organic horizon, compound of crumb rocks and structure of sandy. Mountain chernozem soil is good for its biological

activity. The number of microorganism in 1gm soil is 8-12 million; concentration of humus in (organic horizon) is 2.55-12.1%; exchangeable cations ($\text{Ca}^{+2} + \text{Mg}^{+2}$) 27.6–46.2 meq/100g; Available elements are P_2O_5 0.9-4.6 mg/100 g and K_2O 7-49 mg/100 g soil.

Meadow boggy raw humic soil has structure of powdery earth and clay due to proslusion process, since it is distributed in depleted and wet areas. Meadow boggy raw humic soil is weak for its biological activity. The amount of microorganism is 2.8-5 million per 1 gm soil. Furthermore, this type of soil has high moisture and low temperature regime due to presence of permafrost in underground. Plant organic material occurs in depth of 0-10 cm. Humus concentration is high in surface or with 13.2-28.75%, exchangeable cations ($\text{Ca}^{+2} + \text{Mg}^{+2}$) is good 49.8-65.6 meq/100g; Available elements are P_2O_5 1.4-5.4 mg/100 g and K_2O 4-45 mg/100 g soil.

Alluvial demo soil is low for its biological activity. The number of microorganism in 1gm soil is 2.8 million, moisture and temperature sufficiency is low, humus process medium. Humus concentration in (organic horizon) is 7.18-11% or comparatively high. Exchangeable cations ($\text{Ca}^{+2} + \text{Mg}^{+2}$) good 16-36.6 meq/100g; Available elements are P_2O_5 0.7-4.9 mg/100 g and K_2O 3-3.6 mg/100 g soil.