

Ecological characterization of the soils in the Cluj county mountain-massiv

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Abstract

Because of the big variability of the pedogenetic factors, the soil cover of the Massive Feleacul is various : Haplic luvisol, Phaeozem, Fluvisol, Rendzic leptosol, Histosol.

The object purpose of this paper is to present the ecological characterization of the Haplic luvisol. and. Phaeozem, which are dominant in this area.

Haplic luvisol presents the following ecological characteristics :

- The Tm annual – 7,6 °C; Pm annual - 787 mm
- Low content of total N (0,12 mg/100g in Ao horizon)
- Medium content of mobile P (2,5 mg/100g in Ao and 2,7 – 2,9 mg/100g in Ea horizon)
- High content of humus (2,3 % in Ao horizon)
- Low sun of exchangeable bases/alkalis, moderate acid reaction ($\text{pH}_{\text{H}_2\text{O}} = 5,2 - 5,4$ in Ao and Ea)
- Spring humidity – over medium, aestival humidity – very low, in quantitative report of useful thickness and on plants availability
- Low edafic volume, big vilume for forest essences
- Medium time period of bio – activity period (approximately 7 month)
- The pretability and the favorability of this soil is low for pastures and arable soil and medium for sylviculture

The Phaeozem has following ecological characteristics:

- The Tm annual – 7,9 °C; Pm annual - 680 mm
- High content of total N (0,11 mg/100g in Ao horizon)
- Low content of mobile P (2,6 mg/100g in Ao horizon)
- High content of humus (2,2% in Ao horizon)
- Eutrofic, after the global index of potential trophicity
- Weak acid reaction ($\text{pH}_{\text{H}_2\text{O}} = 5,3$ in Ao and Ea)
- Water – a little excessive in spring, under medium in summer
- Aeration – low to medium in spring, good in summer
- Big edafic volume – the depth of root penetration until 60-70 cm
- The pretability and the favorability of this soil is good for arable (wheat, clover, potatoes) and also fruit growing.

Key words : soil, ecological aspects