

# Comparison of soil profile and soil physico-chemical properties in grassland and abandoned cropland soils in Mongolia

# Aki Hoshino[1]; Kenji Tamura[2]; Maki Asano[3]; Teruo Higashi[2]

[1] Biosphere Resource Sci.Tec.,Univ.Tsukuba; [2] Inst. Appli. Biochem., Univ. Tsukuba; [3] Biosphere Resource Sci. Tec., Univ. Tsukuba

At Kherlen Bayan Ulan(KBU) in Mongolia, large area were already cultivated since 1970s, but most of these area were abandoned in the 1990s. Chenopod spp. are dominated in these abandoned field. On the other hand, bent grasses are dominated in the natural grassland. The objective of this study was to investigate the effect of abandonment of cultivation on the several soil properties.

Study sites were the abandoned field(AF)and the natural grassland(NG) at KBU in north eastern Mongolia. Soil profiles were examined and the mesurments of some physical and chemical properties were carried out, and compared each other.

Macropores were, relatively, decreased and permeabilities were lower by the destruction of soil structure caused by the cultivation on surface soil. pH values of AF site were higher than those of NG site. Total carbon and CEC values were decreased, especially at the surface soil from AF site. It seemed that these tendencies influenced by cultivation. Contents of total water soluble cations were similarly in each soils. It was suggested that water soluble cations were not accumulated on the surface soil of AF and inorganic carbon was existed in Ck horizon at AF site. Thus, soil structure seemed to be effects of the cultivation and its abandonment.