

3A3 soil were much lower than those of the others. This was possibly due to the lower content of decomposable organic matter because the soil sample was derived from a buried humus horizon. Results of analysis of microbial community indicated that the  $\text{KH}_2\text{PO}_4$  and  $\text{H}_2\text{SO}_4$  treatments remarkably changed soil microflora.

## **Andosols-Cambisols sequence on the Ohira Hills in central Miyagi Prefecture, northeastern Japan**

**Mai ENAMI, Hitoshi KANNO, Tadashi TAKAHASHI and Masami NANZYO**

**Graduate School of Agricultural Science, Tohoku University Sendai, Japan**

Andosols often accumulate a large amount of humus, and contribute to the soil carbon storage. Brown forest soils, accounted for 53% of the land in Japan, consist mainly of cambisols, but include some Andosols and Cambisols with inadequate andic properties. They could form the transition of Cambisols to Andosols as to the expression of andic characters. In the present study, the soil of the Ohira Hills located on the east edge of Andosols area in the central Miyagi Prefecture was investigated to examine the distribution of Andosols and Cambisols with andic characters.

**Materials and Methods:** Soil samples: Soil samples were taken at two points of the ridge and slope areas and one point of foot area on the Ohira Hills in the Miyagi Prefectural Forestry Technology Institute (Ohira-mura, Kurokawa-gun) . Soil analysis: Al, Fe and Si extracted by ammonium oxalate, Al and Fe extracted by sodium pyrophosphate, phosphate absorption coefficient, P retention, pH(NaF), bulk density, volcanic glasses content.

Soil classification: Unified Soil Classification System of Japan-2nd Approximation(2002)- and World reference base for soil resources 2006 (WRB 2006) .

**Results and Discussion:** Andic characters at the soil profiles of ridge and foot areas well developed near surface horizons and gradually decreased with depth. On the other hand, those of slope area weakly developed at all horizons. These suggest that the immixture of volcanic ash on the parent material of the study sites was comparatively small and depending on the topographical features. Although the soil profiles of ridge and foot areas showed Andosols-like characteristics, they were classified as Cambisols or Regosols due to the inadequacy of the horizon thickness with andic or vitric properties. The soil profiles of slope area were classified as Cambisols with weak andic characters. Despite the nonexistence of Andosols in the study sites, the soils of the Ohira Hills would be a part of Andosols-Cambisols sequence which includes Cambisols with various degree of andic characters as a function of topographic factor.

## **Studies on faint podzolization observed in the Andosols around Kuanuma on the eastern footslope of Funagata Volcano in Midwestern Miyagi Prefecture, Japan**

**Akiro NISHIUE, Masami NANZYO, Hitoshi KANNO and Tadashi TAKAHASHI**

**Graduate School of Agricultural Science, Tohoku University**

**【Introduction】** Close distribution of Ando soils, Brown forest soils, and Podzolic soils is shown in the soil map in National Land Survey around Kuanuma in Taiwa-cho, Kurokawa-gun, Miyagi prefecture. Various soils