

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

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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 KH_2PO_4 and H_2SO_4 treatments remarkably changed soil microflora.

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

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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.

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[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

are developed from volcanic ash in response to climate, time, biota, geography and human activities, suggesting that the soils around Kuwanua are affected by different pedogenic processes in a small area. We considered podzolisation in the soils around the Kuwanuma in addition to Andosolization.

【Materials and methods】 Three pedons at approximately 800m above sea level (ASL) and 3 pedons at approximately 1000m ASL, 6 pedons in total, were surveyed and sampled according to the genetic horizons around Kuwanuma. In addition to some general physicochemical study, sodium-pyrophosphate extractable organic carbon (C_p) and fulvic acid carbon (C_f) were determined by the dichromate oxidation method. The extent of podzolisation was also examined by using the C_p /(organic carbon) and C_f/C_p ratios.

【Results and discussions】 Although all 6 pedons surveyed in this study are classified as Andosols, weak differences were found between the 800m ASL sites and the 1000m ASL sites. As a podzolisation trend, the vertical distribution of C_p and C_f of 3 pedons at the 1000m ASL sites showed high values between the upper part to the middle part of the soil profiles and they decreased gradually to the lower part. In contrast, 3 pedons located at the 800m ASL sites showed the highest value in the upper part of the soil profiles and the value decreased steeply to the lower part. These results suggest that the Andosols at the 1000m ASL sites are affected by faint podzolisation and podzolisation of the Andosols at the 800m ASL sites is almost negligible. However, no horizons met the criteria of $C_p/OC \geq 0.5$ and $C_f/C_p \geq 0.5$. Thus, mobilization and accumulation of humic substances were not evident according to the method used to differentiate spodic horizons from buried andic A horizons in the World Reference Base for Soil Resources. All horizons of the pedons surveyed in this study showed low C_p/OC and high C_f/C_p values that are the fulvic properties.

Experience as a member of JOCV in Caoson village, Vietnam

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From June 2009 to June 2011, I worked as a rural development extension worker in Vietnam, which was supported by JOCV (Japan Overseas Corporative Volunteers) program, JICA. My office was belonging to Department of Agriculture and Rural Development at Hoabinh Province. The objectives of my job were for improving living conditions and for helping to increase residents' income in the village.

My first activity was to know farmers and their living status and to build friendship up with farmers. So, I tried to talk with many farmers in the village as frequently as possible, and I sometimes stayed in the village for 3-5 days to deepen friendship with them. However, it took a long time, about 1 year, to understand Vietnamese, so it was not easy to hear farmer's opinion and to understand feelings of Vietnamese people.

I conducted 3 activities. One was to introduce Japanese agricultural technology about natural agrichemical, compost, raising seedlings, and so on. Another was to produce furnace made by dirt and manure. And the last was to construct a model farm for producing organic vegetable. What I did for 2 years was limited so that I couldn't get any actual achievements in these activities. However, my experiences for the 2 years were so precious. I am pleased if my modest activities may contribute to improvement of living status of farmers in Caoson village.