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Amelioration of Acidified Soil by Air Pollution and Selection of Tolerant Species to Acid Soil

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Polluted soil sampled in Ulsan, Yecheon and Seoul (Mt. Surak) was ameliorated by treatment of Dolomite and Sludge. Ameliorator suitable for soil properties of each site were selected and appropriate amounts for treatment were determined. As results, the required amounts of Dolomite were measured by analyzing changes of pH along with contents of Dolomite added to the polluted soil. The spans of effects of ameliorators were estimated by analyzing pH of leachate of simulated acid rain infiltrated through soil ameliorated by Dolomite. Amelioration effects of the polluted soil were studied by comparing with growth of plants (*Quercus serrata* and *Celtis sinensis*) on the control pot filled with the polluted soil and experimental pots with ameliorated soil. It also estimated by comparison of chemical properties of the polluted soil with those of the ameliorated soil. In addition, tolerant tree species to acid soil were selected.

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Population dynamics of seedling and sapling of pine and oaks in human-disturbed *Pinus densiflora* forests in rural Korea and Japan (II)

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The vegetation structure is considered as a crucial determinant such as requirements of light, nutrient environments of a suitable safe site for germination and establishment performances. Environmental factors surrounding such heterogeneous structure sometimes would be act as the negative effects on seedling growth and survival when their gradient is not stable. Such environmental heterogeneity for selective advantages of germination and seedling establishment performance and for subsequent survival growth success may vary both with time and communities and with vegetation types, moreover their interactions with habitat environments. To understand the environmental factors on seedling and sapling, several habitat variables and the number of seedlings and saplings of both plants (pine and oaks) were subject to multivariate analysis (PCA). A light condition according to vegetation structure was the important factor on seedling germination and sapling growth. The negative responses on the presence of litter and evergreen trees were however, not identified in this result.