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Inhibition Effect of Aqueous Extract of *Styrax japonica* on Germination and Growth of some Herb Species

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Herb species are almost absent from the forest floor in the *Styrax japonica* community. Phytotoxic effects of *Styrax japonica* on the germination and growth of some herb species were investigated. The aqueous extracts of leaves, flowers and fruits of *Styrax japonica* showed no significant inhibitory effects on germination. However, they showed significant suppression effect on root growth and root hair formation of seedlings of receptor plant except for *Achyranthes japonica*. Aqueous extracts of roots and branches showed no significant suppression effects on germination rate, stem and root growth. Poor understory herb vegetation of *Styrax japonica* community can be attributed to allelochemic interaction between the *Styrax japonica* and the herb species.

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Initial stage of soil seed banks in the burned forests, Kosong areas

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The soil seed bank in post-fire pine forests was investigated in Kosong area, Kangwon-do, Korea. Soil samples were collected from the four burned sites and the two unburned control sites in the six sites of investigated area. At least 40 plant species of buried viable seeds in burned sites were identified in the 0~10 cm soil layer (including litter layer) with total densities ranging between 450 and 900 seeds/m², while in control sites ranged from 330 and 2,800 seeds/m². In burned sites, the numbers and the amount of herbs were more frequent and more diverse than those of trees. But in the unburned control sites, the numbers of trees, especially pine trees, were detected better than the herbs. The overall vertical distribution of seeds was similar at all sites with the highest densities occurring in the upper 2cm of soil and gradually decreasing densities with increasing depth. There were large differences in depth distribution among species, possibly differences in seed longevity.

As the results, in spite of the disturbance (forest fire), the flora and the vegetation of Kosong area in the future will be recovered by the several factors such as diverse seed banks, rhizomes and dispersal seeds etc., and would have a better chance of re-establishing.