

The effects of ecological restoration confirmed in the Pitch pine (*Pinus rigida*) plantation

Shin H.C. and C.S. Lee

Faculty of Environment and Life Sciences, Seoul Women's University

Pinus rigida plantation was usually constructed in the western parts of South Korea. Areal size of *P. rigida* plantation was larger in the order of Chungnam, Gyeonggi, Jeonnam, Jeonbuk and so on. *P. rigida* plantation was usually located below 300m above sea level and 20° in elevation and slope degree, respectively. But the plantation did not show any difference depending on aspects. Species composition of *P. rigida* plantation showed differences depending on study areas but is getting resembled to that of reference stands, *Quercus mongolica* stands. Arrangement of stands in DCA ordination was usually dominated by pH, Ca²⁺, Soil moisture, K⁺, and so on. Growth of annual ring in *P. rigida* tended to decrease over years after plantation. On the contrary, that of *Quercus* spp. showed the reverse trends. As the results of analysis on diameter classes of major woody species, most *P. rigida* plantations showed a trend to be replaced by native oaks. Species diversity examined by species rank-dominance curve tended to increase over years lapsed after afforestation. From those results, we found the effects of successful restoration in *P. rigida* plantation.

Key words: Ecological restoration; Exotic species; *Pinus rigida*; *Quercus* spp.; Species composition; Species diversity