Study on Change Detection of Shinshu University Campus Forest Area  
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Abstract
The study was carried out at Shinshu University Agriculture Faculty, Nagano Prefecture to detect the change of campus forest area. The campus forest (15 ha) is composed of conifer plantations dominant by *Chamaecyparis obtusa*, *Pinus densiflora*, *Larix kaempferi* and a few broadleaved trees. The forest is divided into 7 compartments and the study area was compartment 4. The survey was conducted in 2004, 2009 and 2010 respectively to evaluate the change of species composition, Diameter at Breast Height (DBH), Tree height, Tree volume, dominancy & quality. A Geographic Information System (GIS), ArcView Ver. 9.3.1 by ESRI was used to spatially analyze, organizing and integrating information about tree stand and Multispec was used for species composition. Due to forest thinning and tree dead species no. has found in decreasing rate, where Akamatsu showed the maximum with 4%. The results shows that the highest growth of DBH (3.4 cm) and tree height (5.3 m) were found in Akamatsu whereas least DBH and tree height was in Sakura and Hinoki respectively. Tree mortality rate was high for Sakura the smallest trees species. Northern part in the study area was rich with Akamatsu due to naturally regeneration; on the other hand, southern part has composed with various tree species for artificially plantation.

Keywords: Conifer plantation, species composition, change detection.