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# Study on Vegetation Composition in Broadleaved and Coniferous Plantations, Bibiyanlou's Forest Park, Astara, Iran

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**Abstract:** The aim of this study was to investigate vegetation composition in hardwood and conifers Plantation in 220 ha of *Pinus taeda* and alder and poplar hardwood plantation and its comparison with natural forests in Bibiyanlu protected forest park at Astara. A total of 60 sampling plots of 1000 $m^2$ by randomly-systematic method using 150 × 150 m grid in plantation and 200 × 200 m in natural forest was implemented. Rosaceae and Aspidiaceae family had the highest species richness in the study area, respectively. The results of the classification of life forms based on Rankayer method showed that Hemicryptophytes and Phanerophytes with total of 67% were the important in the area. Studying the geographical distribution of plants showed that the most species belongs to Europe - Siberian in the study area. To study the biodiversity, Shannon - Wiener diversity index, Simpson's index, Hill evenness index and richness indices were used. The results of this research showed that there are significant difference for diversity and richness indices between natural forest and plantation. Diversity and richness indices in natural forest were more than Taeda pine, Poplar and Alnus plantation.

**Keywords:** Plantation, Species composition, Coniferous, Broadleaved, Astara.