عنوان مقاله:

Biomass and Net Primary Productivity in Three Different Aged Butea Forest Ecosystems in Western India, Rajasthan

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خلاصه مقاله:

The study was conducted to estimate the biomass and net primary productivity of different age grouped (5, 10 and 15-year-old) Butea monosperma forest ecosystems in western India, Rajasthan(located between 23°49' to 25°28' N latitudes and 73°0' to 75°49' E longitudes) from June 2007 to May 2008.The vegetation biomass, forest floor biomass, tree litter fall and net primary productivity (NPP) of trees and shrubs were estimated and it is found that the tree biomass and net primary productivity increased with increasing age of the forest stand, whereas the herb biomass and net primary productivity decreasedsignificantly ($P < 0.01$) with increase in the forest age. The biomass of trees increased with age from 183.7 ± 3.21to 298.3 ± 3.57 t haG1 while shrub biomass ranged from 4.9 ± 1.61 to 6.3 ± 1.38 t haG1 and the herb biomass fluctuated from 1.7 ± 1.64 to 2.1 ± 1.81. The tree layer NPP varied from 17.2 to 29.3 t haG1 yearG1 where the NPP of the shrub layer was 0.88 to 1.6 t haG1 yearG1. The productivity of the herb layer was fluctuating from 2.3 to3.1 t haG1 yearG1. The all values of biomass and NPP of trees, shrubs and herbs were low in 5-year-old, moderatein 10-year-old and high in 15-year-old forest stands. The total forest biomass increased from 190.7 t haG1 in the 5-year-old to 306.3 t haG1 15-year-old forest and net primary productivity from 21.1 t haG1 yearG1 in the 5-year-old to 33.2 t haG1 yearG1 in the 15-year-old forest.

کلمات کلیدی:

Butea monosperma Lam % Biomass % Forest floor biomass % Litter fall % Net primary productivity