

Abstract - Dynamic of soil fertility in some forest plantation species at Ba Vi-Ha Tay provi...

To set up the base to develop technical solution for increasing Forest Plantation yield, we studied the dynamic of soil fertilities under several plantation forest type on soil fertility, using plotting method following are some preliminary results in the year 2000. Quantity of litter fall At Da Chong station: Acacia hybrid had the highest amount of litter fall 12.3 tons/ha/year, the second was A.mangium 11.5 tons/ha/year, the third was A.auriculiformis 11/tons/ha/years.

At Cam Quy: A.mangim had the highest amount of litter fall 12.6 tons/ha/year, the second was A.dificilis 9.6 tons/ha/years, the lowest was E.urophylla 5.3 tons/ha/year Decomposed matter, most of the Acacia plantations had decomposed rate higher than that of Eucalytus. Decomposed rate under A.auriculiformis plantation and A.hybrid were 8.2 tons/ha/year respectively-while decomposed rate under Eucalytus was only 3-4 tons/ha/year.

Dynamic of soil physical/ chemical properties.

Soil porosity, under A, hybrid at Da Chong and Cam Quy station, was significantly improved. Soil bulk density, which used to measure porosity, under A, hybrid was decreased by 9 – 10%. In general soil porosity under Acacia plantation was considerably improved in compare with Eucalyptus plantation (4.3%).

Monthly soil moisture in dry season under Acacia was also higher than that of Eucalyptus (12 – 19% and 10% respectively).

It was observed that, Humus and nitrogen content were increasing along with forest age. A hybrid and A, mangium had highest organic matter content: humus increased by 26 – 35%, nitrogen increased by 20%. A, auriculiformis had a lower increment of organic matter (humus increased by 14% nitrogen increased by 8%) but is still higher than that of bare land (humus increased by 2 – 3%, nitrogen increased by 2,5 – 7%, nitrogen increased by 5 – 6%).

Soil microorganism: A. Hybrid had the highest number of freely – living – nitrogen fixing micro – organism cells as well as soil – micro – organism cell: $6,15 \times 10^4$ cells/ soil – gram 305×10^6 cells/ soil – gram. Respectively. A. Mangium had freely living – nitrogen fixing micro – organism cells of 46.5×10^4 cells/ soil – gram and micro – organism of 46.5×10^6 cells/ soil – gram. The lowest number are under E. Camandulensis 23.7×10^4 cells/ soil – gram of freely – living – nitrogen fixing microorganism; and 23.9×10^6 cells/ soil – gram of micro – organism.

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