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 lower was E.urophylla 5.3 tons/ha/years Decomposed matter, most of the Acacia plantations had decomposed rate higher than that of Eucalyptus. Decomposed rate under A.auriculiformis plantation and A.hybrid were 8.2 tons/ha/year respectively-while decomposed rate under Eucalyptus 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).

Is was observed that, Humus and nitrogen content were increasing along with forest age. A hybrid and A, maggium 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 x 104 cells/ soil – grand 305 x 106 cells/ soil – gr. Respectively. A. Mangium had freely living – nitrogen fixing micro – organism cells of 46.5 x 104 cells/ soil – gr and micro – organism of 46.5 x 106 cells/ soil – gr. The lowest number are under E. Camandulensis 23.7 x 104 cells/ soil – gr of freely – living – nitrogen fixing microorganism; and 23.9 x 106 cells/ soil – gr of micro – organism.