



Research project of counterparts funded at IPB

Name	Counterpart	Title
Noor Farikhah Haneda	B01	The role of ants in tropical lowland rainforest transformation ecosystem

The transformation of forest into plantation systems represents a major ecosystem disturbance expected to affect the diversity of soil fauna and its impact on litter decomposition. Therefore, soil fauna diversity could be used as an indicator for environmental quality. The ecosystems studied in this research project are used to describe changes in ecosystem function from forest to non-forest systems. This research project was conducted in Bungku village, Bajubang sub district, Batanghari Regency, Jambi. The objectives of this research project were to investigate the diversity and role of soil fauna in litter decomposition across four ecosystem types; namely secondary forest (BF), oil palm plantations (BO), rubber plantations (BR), and jungle rubber (BJ).

Decomposition rates differed between the four ecosystem types over a 12-week period, with the highest rate of litter decomposition in each ecosystem occurring within period 1 (from week 2 up to week 4). Decomposition rates were higher in the initial weeks and tended to decrease over the duration of the experiment in line with the decreasing amount of litter. Changes in soil fauna diversity facilitated decomposition across ecosystem types. Lighter soil texture (sandy clay loam as compared to clay) of secondary forest might be an important factor contributing to higher abundance of soil fauna in this ecosystem type. Interestingly, the C/N (carbon / nitrogen) ratio of the leaf litter varied over the duration of the experiment, indicating increasing decomposition of the litter material.

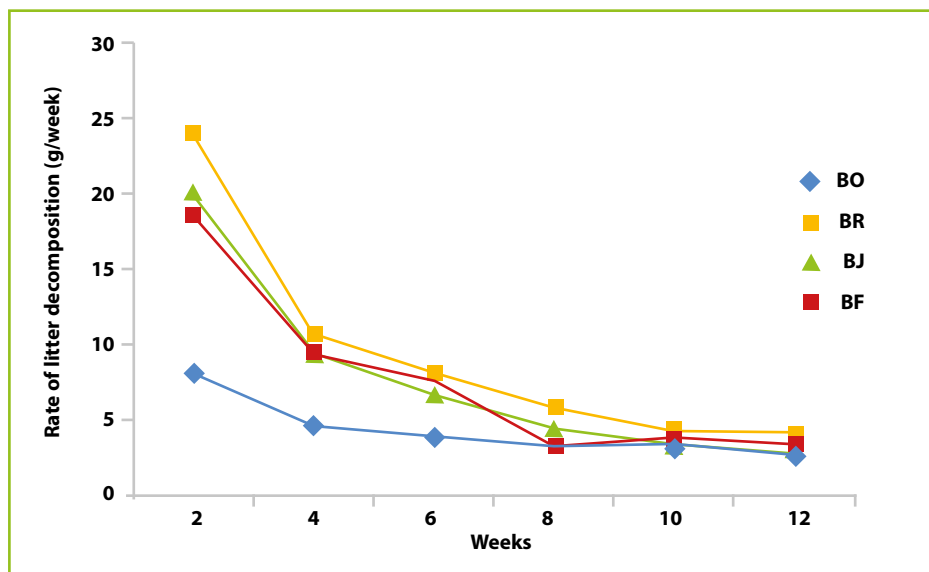


Figure 1. Rate of litter decomposition in secondary forest (BF), oil palm plantations (BO), rubber plantations (BR), and jungle rubber (BJ).