

CHAPTER 3

Biomass Carbon and Nutrients of Pine and Succession Trees in Pine Plantations and Fragmented Forests

Abstract

Biomass carbon and nutrient storages of *Pinus kesiya* and succession trees in 21 age-class pine plantations of 14 to 34 years old were investigated at Boakaew Watershed Management Station, Chiang Mai province. Totally, sixty three sampling plots, 40 x 40 m² in size (3 plots/age-class stand) were used. Stem diameter at 1.3 m above ground and height of all trees were measured. The carbon storages were different among different age stands, 46-140 Mg.ha⁻¹, and separated to 12-106 Mg.ha⁻¹ for pine and 6-69 Mg.ha⁻¹ for the others. The storages of nitrogen, phosphorus, potassium, calcium and magnesium were in ranges of 370-965, 44-127, 263-680, 480-1,329 and 75-279 kg.ha⁻¹. The carbon storages of pine trees did not increase with stand ages, and the high fluctuation was observed caused by many factors. The succession tree species had the important role on stand carbon stocks. Their contribution percentages were greatly different among plantations, 4.2-71.7% of the total. These succession tree species were in the families of Fagaceae, Theaceae, Myrtaceae, Leguminosae, Euphorbiaceae, Rubiaceae and Lauraceae.

Totally, 103 species existed in the fragmented forests. Carbon stocks in their biomass varied between 57.93-125.16 Mg.ha⁻¹ (99.33 Mg.ha⁻¹ in average) divided into stem, branch, leaf and root components of 64.86, 19.70, 1.60 and 12.60 Mg.ha⁻¹, respectively. Average amounts of nitrogen, phosphorus, potassium and magnesium in their biomass were in the order of 1,100.62; 154.37; 753.12; 1,601.87 and 358.75 kg.ha⁻¹. *P. kesiya* had the largest amounts of biomass carbon and nutrients. The lower amounts were occurred for *Castanopsis acuminatissima*, *Schima wallichii*, *C. diversifolia* and *Quercus brandisiana*.

3.1 Introduction

The report on effects of emission greenhouse gases in Thailand showed that forestry sector released carbon amount of 16.5 x 10⁷ t (or 60.5 x 10⁷ of CO₂) in 1994. The amount of carbon released in 1994 was about 70% of 1990 because of increasing forest plantations and decreasing deforestation (Puangchit, 2004). Reforestation are thus important for carbon sequestration and reduced CO₂ emission.

Biomass refers to the total weight of organic material in a population, a trophic level, or an ecosystem in a given area at any point in time (Kimmins, 1996). Forest growth and conversion of forest trees to long-lived wood products can increase the carbon stored in forest product pool. Carbon sequestration could accumulate in aboveground biomass (leaf, bark, stem, branch and reproductive organs) and belowground biomass (root) (Pumijumnonng, 2004). Carbon fixing is depended on many factors, such as species, growth rate, age, rotation, rainfall, seasoning and location. The annual carbon fixing of tree species were high in initial of forest plantation (Ciesla, 1995).

In the 1960s, a study from a single plantation suggested that forests 150 or more years old give off as much carbon as they take up from the atmosphere, and are thus "carbon neutral". Historic and current land-use changes and resource management practices impact the overall carbon cycle, such as clearing forests and grasslands and intensive tillage and harvest practices, release CO₂ to the atmosphere (Law, 2008).

Different forest types have variable potentials of carbon storages in biomass. Aboveground biomass carbon stocks at Kaeng Krachan national park, Phetchaburi province in evergreen, mixed deciduous and dry evergreen forests were in the order of 129, 93.2 and 37.1 Mg.ha⁻¹. However, the forest condition is an important factor. The carbon sequestration in aboveground net primary production of primary forest is lower than secondary forest. Appropriate management practices are important to restore and improve the effective carbon sequestration of the secondary (disturbed) forests (Jampanin, 2004).

Different carbon accumulations in biomass of tree species having the high potential were reported. *Acacia mangium*, *A. auriculaeformis*, *Eucalyptus camaldulensis*, *Xylia xylocarpa*, *Dalbergia cochinchinensis* and *Pterocarpus macrocarpus*, had the carbon storages of 14.8, 9.1, 8.9, 6.7, 6.1 and 4.0 Mg.ha⁻¹, respectively (Nualngam, 2001). In teak plantations, the total carbon storages in 10, 14, 18, 27 and 28 years old stands were in the order of 169.4, 83.7, 99.1, 170.1, 149.67 Mg ha⁻¹. However, the variations depend on many factors such as topography, management practices, fire, etc. (Pumijumnong, 2007).

The aims of this research are to assess carbon and nutrient storages in biomass of pine trees and succession tree species in different age pine plantations and adjacent fragmented forests. The data are useful as guideline to improve plantation technique of reforestation.

3.2 Materials and Methods

3.2.1 Vegetation Sampling

Sixty three sampling plots of 40 x 40 m² in size were used to study growth and wood production of tree species in *P. kesiya* plantations. Twenty-one age-class plantations including 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29-, 30, 31, 32, 33 and 34 years old were selected. Three plots (replications) were used for each age-class plantation. Each plot was divided into 16, 10 x 10 m² subplots, and all woody trees and climbers with ≥ 1.5 m height were measured for gbh (stem girth at breast height, 1.3 m above ground), and tree height.

3.2.2 Plant Analysis

(1) Total N: The plants were grinded and digested by H₂SO₄ and using a wet ashing and Micro kjeldhal method to determine total N.

(2) Plants were grinded and digested by using a wet ashing method (HNO₃: H₂SO₄ solution = 6:1) to find out; total P by using Ammonium vanadate and colorimeter method; total K by flame photometer (Lanyon and Heald, 1982), and total Ca and Mg by atomic absorption (Lanyon and Heald, 1982)

(3) The carbon contents in plants were analyzed by using a wet oxidation of Walkley and Black (1934).

3.2.3 Calculation of Stored Nutrients in Succession Trees

The biomass of other succession tree species and root biomass of pine was obtained using allometric equations of Tsutsumi *et al.* (1983).

$$\begin{aligned} W_S &= 0.0509 (D^2H)^{0.919} & R^2 &= 0.978 \\ W_B &= 0.00893 (D^2H)^{0.977} & R^2 &= 0.890 \\ W_L &= 0.0140 (D^2H)^{0.669} & R^2 &= 0.714 \\ W_R &= 0.0313 (D^2H)^{0.805} & R^2 &= 0.981 \end{aligned}$$

Where, W_S = biomass of stem (kg)
 W_B = biomass of branch (kg)
 W_L = biomass of leaf (kg)
 W_R = biomass of root (kg)
 D = diameter (cm)
 H = height (m)

Nutrient contents in various organs of tree species followed the data of Tsutsumi *et al.* (1983) in dry evergreen forest. The mean carbon contents in stem, branch, leaf and root were 49.9, 48.7, 48.3 and 48.2%; 0.53, 0.53, 1.59 and 0.53% for nitrogen; 0.08, 0.10, 0.13 and 0.02% for phosphorus; 0.37, 0.40, 1.10 and 0.27% for potassium; 0.76, 0.80, 1.50 and 0.88% for calcium; and 0.17, 0.20, 0.90 and 0.10% for magnesium, respectively.

3.3 Results

3.3.1 Biomass Carbon and Nutrients of Pine and Succession Trees

3.3.1.1 Stored Carbon and Nutrients of Pine

Carbon storages in biomass of *Pinus kesiya* did not increase with plantation ages. The amounts were highly fluctuated among 21 plantations, 12-106 Mg.ha⁻¹. It was the lowest in 17-year-old stand, and the highest amount was occurred in 33-year-old stand. As same as biomass many factors such as spacing of planting, tree densities, competition with succession trees and site conditions are considered as the main effects.

The fluctuations were similar for other nutrients accumulated in the pine biomass. The ranges of stored nutrients were different: nitrogen; 55-490 kg.ha⁻¹, phosphorus; 6-58 kg.ha⁻¹, potassium; 40-362 kg.ha⁻¹, calcium; 70-627 kg.ha⁻¹, and magnesium; 10-86 kg.ha⁻¹. The large proportion was stored in stem component, followed by root, branch and leaf (Table 3-1).

3.3.1.2 Stored Carbon and Nutrients of Succession Trees

The carbon amounts accumulated in biomass of other succession broad-leaved tree species in pine plantations were different among 21 plantations. The amounts varied from 6 to 69 Mg.ha⁻¹. It was the lowest in 20-year-old stand and the highest amount was observed in 31-year-old stand. The number of succession tree species in these pine plantations varied between 16-69 species. In 20-year-old stand, the number of succession tree species was low as 16 species. For 31-year old stand, the number of succession tree species was 38 species. However, the biomass carbon of succession trees was depended on their growths. The succession trees in 20-year-old stand were still small, and thus had the low biomass. In contrast, those succession trees in the 31-year-old stand were abundant and consisted of many big trees.

The accumulated biomass nutrients were also different in the same trend: nitrogen; 65-765 kg.ha⁻¹, phosphorus; 9-107 kg.ha⁻¹, potassium; 44-523 kg.ha⁻¹, calcium; 94-1,113 kg.ha⁻¹, and magnesium; 21-249 kg.ha⁻¹. The large amounts were stored in stem component, followed by root, branch and leaf (Table 3-2).

3.3.1.3 Total Stored Carbon and Nutrients

Carbon:

Same as forest biomass, biomass carbon in a series of 21 age-class pine plantations included stored carbon in pine trees and succession broad-leaved trees. The amounts did not increase with stand ages, and varied from 46 to 140 Mg.ha⁻¹. It was the lowest in 15-year-old stand, and the highest amount was observed in 26-year-old stand. The low amounts were found in plantations with altitude above 500 m msl., and those in areas between 1,314-1,453 m msl. had the high total biomass carbon. The large proportion was allocated in stem component, followed by root, branch and leaf.

The accumulated nutrients were also varied in the same trend as carbon: nitrogen; 370-965 kg.ha⁻¹, phosphorus; 44-127 kg.ha⁻¹, potassium; 263-680 kg.ha⁻¹, calcium; 480-1,329 kg.ha⁻¹, and magnesium; 75-279 kg.ha⁻¹. The nutrient allocations in various organs of tree species were the same as biomass and carbon (Table 3-3 and Figure 3-1). These succession tree species were in the families of Fagaceae, Theaceae, Myrtaceae, Leguminosae, Euphorbiaceae, Rubiaceae and Lauraceae (Table 3-4).

The contribution of succession trees to total biomass carbon can be considered from the percentage distribution. The percentages of succession tree biomass were different among pine plantations. The figures were the same to biomass. It was the highest in 17 year-old stand, and the lowest in 33 year-old stand. The biomass carbon of succession trees was 26.8% in the 26-year-old stand which had the highest total biomass carbon while the 15-year-old stand had the lowest total biomass carbon and the figure of 66.5%.

In 14-year-old stand, among 35 species of succession trees *Glochidion sphaerogynum* had the highest stored carbon in biomass (9.95 Mg.ha⁻¹). The lower amounts were observed for *Schima wallichii*, *Albizia chinensis*, *Callicarpa arborea*, *Litsea* sp., *Castonopsis diversifolia*, *Ficus ribes*, *Eriolaena candollei*, etc. The values were 1.06-5.39 Mg.ha⁻¹.

In 15-year-old stand, there was 53 species of succession trees. *S. wallichii* had the highest biomass carbon, 6.25 Mg.ha⁻¹. The other trees having the lower amounts

(1.22-5.25 Mg.ha⁻¹) were *C. acuminatissima*, *Engelhardtia spicata*, *Beilschmiedia gammieana*, *Dillenia aurea*, *Ternstroemia gymnanthera*, *Helicia terminalis*, *Phoebe paniculata*, *Trichilla connaroides*, *Stereospermum neuranthum*, etc.

In 16-year-old stand, 32 species of succession trees were existed. *S. wallichii* had the highest biomass carbon (2.43 Mg.ha⁻¹), followed by *Canarium subulatum*, *Wendlandia tinctoria*, *Spatholobus parviflorus*, etc, with the values of 0.78-0.90 Mg.ha⁻¹.

In 17-year-old stand, the high number as 60 species of succession trees was found. *Schima wallichii* had the highest biomass carbon (5.97 Mg.ha⁻¹). The lower amounts (1.54-4.95 Mg.ha⁻¹) were calculated for *Myrica esculenta*, *E. spicata*, *C. diversifolia*, *Quercus semiserrata*, *H. terminalis*, *C. acuminatissima*, *Phoebe cathia*, *W. tinctoria*, *Syzygium albiflorum*, *Elaeocarpus sphaericus*, etc.

In 18-year-old stand, among 45 species of succession trees *C. purpurea*, had the highest biomass carbon (6.17 Mg.ha⁻¹). The trees having lower amounts (1.55-3.01 Mg.ha⁻¹) were *S. wallichii*, *E. candollei*, *C. acuminatissima*, *Quercus vestita*, *C. diversifolia*, *W. tinctoria*, *G. sphaerogynum*, *Dalbergia assamica*, *Acacia megala-dena*, etc.

In 19-year-old stand, existing succession trees were 37 species. *C. diversifolia* had the highest biomass carbon (5.49 Mg.ha⁻¹). They were followed by *E. candollei*, *C. purpurea*, *Albizia chinensis*, *W. tinctoria*, *T. gymnanthera*, etc. The values varied between 1.36-3.71 Mg.ha⁻¹.

In 20-year-old stand, there was the lowest number of succession tree species among plantations as 16 species, and *Bauhinia variegata* had the highest biomass carbon (2.34 Mg.ha⁻¹), followed by *E. candollei*, *S. albiflorum*, *C. diversifolia*, etc, with the values of 0.34-2.01 Mg.ha⁻¹.

In 21-year-old stand, there was 40 species of succession trees. *S. wallichii* had the highest biomass carbon (12.72 Mg.ha⁻¹). The lower amounts (1.15-5.52 Mg.ha⁻¹) were observed for *C. acuminatissima*, *Anneslea fragrans*, *S. albiflorum*, *C. diversifolia*, *Lithocarpus elegans*, *W. tinctoria*, *E. sphaericus*, *M. esculenta*, *Buchanania lanzan*, etc.

In 22-year-old stand, the number as 60 species of succession trees was found. The stored carbon in biomass was the highest for *Q. brandisiana*, 8.09 Mg.ha⁻¹. They were followed by *Q. vestita*, *L. polystachyus*, *Dalbergia cultrata*, *S. wallichii*, *W. tinctoria*, *Gluta obovata*, *L. elegans*, *Tristania rufescens*, *L. sootepensis*, *C. purpurea*, *F. ribes*, *A. fragrans*, etc, with the values of 1.04-3.97 Mg.ha⁻¹.

In 23-year-old stand, the succession tree species in this stand were 49 species. *Q. vestita* had the highest biomass carbon (11.77 Mg.ha⁻¹), and followed by *L. polystachyus*, *S. wallichii*, *L. sootepensis*, *L. elegans*, *Q. kingiana*, etc., with the values between 1.19-7.63 Mg.ha⁻¹.

In 24-year-old stand, *C. diversifolia* had the highest biomass carbon (20.69 Mg.ha⁻¹) among 45 tree species. The seven tree species had the lower amounts (1.32-7.00 Mg.ha⁻¹); *S. wallichii*, *E. sphaericus*, *Sacrospermum arboreum*, *S. cumini*, *H. terminalis*, *Erythrina subumbrans*, *G. sphaerogynum*, etc.

In 25-year-old stand, succession tree species in this stand consisted of 38 species, and *S. wallichii* had the highest biomass carbon, 7.45 Mg.ha⁻¹. The amounts were lower for *C. diversifolia*, *S. albiflorum*, *C. purpurea*, *A. fragrans*, *C. acuminatissima* and *W. tinctoria*, with the values of 1.15-4.26 Mg.ha⁻¹.

In 26-year-old stand, there were 30 species of succession tree species. *S. wallichii* had the highest biomass carbon ($16.49 \text{ Mg}\cdot\text{ha}^{-1}$). The amounts of $1.09\text{-}6.47 \text{ Mg}\cdot\text{ha}^{-1}$ were belonged to *Q. semiserrata*, *C. diversifolia*, *H. nilagirica*, *S. albiflorum*, *T. gymnanthera*, *S. neuranthum*, *S. cumini*, *C. purpurea*, *D. aurea*, *P. paniculata*, etc.

In 27-year-old stand, the number of succession tree species was high as 69 species, and the highest stored carbon in biomass was *S. wallichii* ($26.21 \text{ Mg}\cdot\text{ha}^{-1}$). The amounts of 1.11 to $2.76 \text{ Mg}\cdot\text{ha}^{-1}$ were stored in *C. diversifolia*, *G. sphaerogynum*, *P. paniculata*, *E. sphaericus*, *D. velutina*, *Betula alnoides*, *B. lanzan*, *C. purpurea*, *W. tinctoria*, etc.

In 28-year-old stand, 34 species of succession tree species was composed in this stand. The species having the highest biomass carbon ($11.15 \text{ Mg}\cdot\text{ha}^{-1}$) in the stand was *S. wallichii*. They were followed by *E. spicata*, *G. sphaerogynum*, *Markhamia stipulata*, *C. diversifolia*, with the values of $0.63\text{-}1.33 \text{ Mg}\cdot\text{ha}^{-1}$.

In 29-year-old stand, among 31 species of succession tree species, *C. purpurea* had the highest biomass carbon ($5.67 \text{ Mg}\cdot\text{ha}^{-1}$). The lower amounts of $2.08\text{-}4.80 \text{ Mg}\cdot\text{ha}^{-1}$ were calculated for *S. wallichii*, *H. terminalis*, *A. fragrans*, etc.

In 30-year-old stand, the total number of succession tree species was 35 species. *C. diversifolia* had the highest amount of biomass carbon ($12.30 \text{ Mg}\cdot\text{ha}^{-1}$), and followed by *S. wallichii*, *C. purpurea*, *D. assamica*, *E. spicata*, *L. elegans*, etc., with the values of $2.18\text{-}11.70 \text{ Mg}\cdot\text{ha}^{-1}$.

In 31-year-old stand, there was 38 succession tree species, and *C. diversifolia* had the highest amount of biomass carbon ($22.18 \text{ Mg}\cdot\text{ha}^{-1}$). They were followed by *S. wallichii*, *C. acuminatissima*, *S. albiflorum*, *W. tinctoria*, *M. esculenta*, *Olea salicifolia*, *S. cumini* and *H. terminalis*, with the values between $1.64\text{-}17.25 \text{ Mg}\cdot\text{ha}^{-1}$.

In 32-year-old stand, the total succession tree species in the stand was 33 species. *S. wallichii* had the highest biomass carbon ($20.41 \text{ Mg}\cdot\text{ha}^{-1}$), and followed by *S. cumini*, *C. acuminatissima*, *P. paniculata*, *Xanthophyllum virens*, *E. sphaericus*, *Magnolia henryi*, *C. tribuloides*, etc., with the amounts of $1.07\text{-}7.70 \text{ Mg}\cdot\text{ha}^{-1}$.

In 33-year-old stand, 52 species of succession tree species was existed. Wild banana, *M. acuminata*, had the highest biomass carbon ($2.01 \text{ Mg}\cdot\text{ha}^{-1}$). Other trees had the lower amounts.

In the oldest stand of 34 years old, *C. purpurea* had the highest biomass carbon among succession trees of 49 species. The amount was $24.53 \text{ Mg}\cdot\text{ha}^{-1}$. The lower amounts ($1.27\text{-}11.08 \text{ Mg}\cdot\text{ha}^{-1}$) were found for *Q. vestita*, *S. wallichii*, *Q. brandisiana*, *S. cumini*, *W. tinctoria*, *D. assamica*, etc.

The succession tree species which had the highest amounts of biomass carbon were different for most of 21 pine plantations. However, *S. wallichii*, *C. diversifolia* and *C. purpurea* were found in many plantations. These trees usually grow in the relatively moist site. *Q. brandisiana* and *Q. vestita* were abundant in the dry site of pine plantations.

Nitrogen:

The nitrogen stored in forest biomass were varied with the values between $370\text{-}965 \text{ kg}\cdot\text{ha}^{-1}$. It was the highest in 26-year-old stand, and the lowest in 20-year-old stand (Table 3-5).

In 14-year-old stand, among 35 species of succession trees *G. sphaerogynum* had the highest stored nitrogen in biomass (111.96 kg.ha⁻¹). The lower amounts were observed for *S. wallichii*, *A. chinensis*, *C. arborea*, *Litsea* sp., *C. diversifolia*, *F. ribes*, *E. candollei*, etc. The values were 11.73-59.71 kg.ha⁻¹.

In 15-year-old stand, there was 53 species of succession trees. *S. wallichii* had the highest stored nitrogen, 69.61 kg.ha⁻¹. The other trees having the lower amounts (13.54-57.79 kg.ha⁻¹) were *C. acuminatissima*, *E. spicata*, *B. gammieana*, *D. aurea*, *T. gymnanthera*, *H. terminalis*, *P. paniculata*, *T. connaroides*, *S. neuranthum*, etc.

In 16-year-old stand, 32 species of succession trees were existed. *S. wallichii* had the highest stored nitrogen (27.15 kg.ha⁻¹), followed by *C. subulatum*, *W. tinctoria*, *S. parviflorus*, etc. The values varied between 8.62-10.00 kg.ha⁻¹.

In 17-year-old stand, the high number as 60 species of succession trees was found. *Schima wallichii* had the highest stored nitrogen (66.74 kg.ha⁻¹). The lower amounts (17.13-55.06 kg.ha⁻¹) were calculated for *M. esculenta*, *E. spicata*, *C. diversifolia*, *Q. semiserrata*, *H. terminalis*, *C. acuminatissima*, *P. cathia*, *W. tinctoria*, *S. albiflorum*, *E. sphaericus*, etc.

In 18-year-old stand, among 45 species of succession trees *C. purpurea*, had the highest stored nitrogen (69.19 kg.ha⁻¹). The trees having lower amounts (16.99-33.50 kg.ha⁻¹) were *S. wallichii*, *E. candollei*, *C. acuminatissima*, *Q. vestita*, *C. diversifolia*, *W. tinctoria*, *G. sphaerogynum*, *D. assamica*, *A. megaladena*, etc.

In 19-year-old stand, existing succession trees were 37 species. *C. diversifolia* had the highest stored nitrogen (61.46 kg.ha⁻¹). They were followed by *E. candollei*, *C. purpurea*, *A. chinensis*, *W. tinctoria*, *T. gymnanthera*, etc. The values varied between 15.04-41.41 kg.ha⁻¹.

In 20-year-old stand, there was the lowest number of succession tree species among plantations as 16 species, and *B. variegata* had the highest stored nitrogen (26.17 kg.ha⁻¹), followed by *E. candollei*, *S. albiflorum*, *C. diversifolia*, etc, with the values of 3.79-22.46 kg.ha⁻¹.

In 21-year-old stand, there was 40 species of succession trees. *S. wallichii* had the highest stored nitrogen (141.36 kg.ha⁻¹). The lower amounts (12.88-61.28 kg.ha⁻¹) were observed for *C. acuminatissima*, *A. fragrans*, *S. albiflorum*, *C. diversifolia*, *L. elegans*, *W. tinctoria*, *E. sphaericus*, *M. esculenta*, *B. lanzan*, etc.

In 22-year-old stand, the number as 60 species of succession trees was found. The stored nitrogen in biomass was the highest for *Q. brandisiana*, 90.62 kg.ha⁻¹. They were followed by *Q. vestita*, *L. polystachyus*, *D. cultrata*, *S. wallichii*, *W. tinctoria*, *G. obovata*, *L. elegans*, *T. rufescens*, *L. sootepensis*, *C. purpurea*, *F. ribes*, *A. fragrans*, etc, with the values of 11.77-45.19 kg.ha⁻¹.

In 23-year-old stand, *Q. vestita* had the highest stored nitrogen (131.08 kg.ha⁻¹) among 49 species. They were followed by *L. polystachyus*, *S. wallichii*, *L. sootepensis*, *L. elegans*, *Q. kingiana*, etc., with the values between 13.62-85.20 kg.ha⁻¹.

In 24-year-old stand, the number of succession tree species was high as 45 tree species. *C. diversifolia* had the highest stored nitrogen (226.59 kg.ha⁻¹). The amounts of 14.78-77.34 kg.ha⁻¹ were belonged to *S. wallichii*, *E. sphaericus*, *S. arboreum*, *S. cumini*, *H. terminalis*, *E. subumbrans*, *G. sphaerogynum*, etc.

In 25-year-old stand, succession tree species in this stand consisted of 38 species, and *S. wallichii* had the highest stored nitrogen (82.88 kg.ha⁻¹). The amounts

were lower for *C. diversifolia*, *S. albiflorum*, *C. purpurea*, *A. fragrans*, *C. acuminatissima* and *W. tinctoria*, with the values of 13.34-47.31 kg.ha⁻¹.

In 26-year-old stand, there were 30 species of succession tree species. *S. wallichii* had the highest stored nitrogen (182.55 kg.ha⁻¹). The amounts of 12.09-70.47 kg.ha⁻¹ were belonged to *Q. semiserrata*, *C. diversifolia*, *H. nilagirica*, *S. albiflorum*, *T. gymnanthera*, *S. neuranthum*, *S. cumini*, *C. purpurea*, *D. aurea*, *P. paniculata*, etc.

In 27-year-old stand, the number of succession tree species was high as 69 species, and the highest stored nitrogen was *S. wallichii* (291.62 kg.ha⁻¹). The amounts of 12.53-30.72 kg.ha⁻¹ were stored in *C. diversifolia*, *G. sphaerogynum*, *P. paniculata*, *E. sphaericus*, *D. velutina*, *B. alnoides*, *B. lanzan*, *C. purpurea*, *W. tinctoria*, etc.

In 28-year-old stand, 34 species of succession tree species was composed in this stand. The species having the highest stored nitrogen (123.54 kg.ha⁻¹) in the stand was *S. wallichii*. They were followed by *E. spicata*, *G. sphaerogynum*, *M. stipulata*, *C. diversifolia*, with the values of 7.06-14.83 kg.ha⁻¹.

In 29-year-old stand, among 31 species of succession tree species, *C. purpurea* had the highest stored nitrogen (63.13 kg.ha⁻¹). The lower amounts of 22.89-53.18 kg.ha⁻¹ were calculated for *S. wallichii*, *H. terminalis*, *A. fragrans*, etc.

In 30-year-old stand, the total number of succession tree species was 35 species. *C. diversifolia* had the highest amount of stored nitrogen (134.58 kg.ha⁻¹), and followed by *S. wallichii*, *C. purpurea*, *D. assamica*, *E. spicata*, *L. elegans*, etc., with the values of 24.42-130.50 kg.ha⁻¹.

In 31-year-old stand, there was 38 succession tree species, and *C. diversifolia* had the highest amount of stored nitrogen (245.18 kg.ha⁻¹). They were followed by *S. wallichii*, *C. acuminatissima*, *S. albiflorum*, *W. tinctoria*, *M. esculenta*, *Olea salicifolia*, *S. cumini* and *H. terminalis*, with the values between 18.38-191.27 kg.ha⁻¹.

In 32-year-old stand, the total succession tree species in the stand was 33 species. *S. wallichii* had the highest stored nitrogen (225.34 kg.ha⁻¹), and followed by *S. cumini*, *C. acuminatissima*, *P. paniculata*, *X. virens*, *E. sphaericus*, *M. henryi*, *M. barbatus*, *C. tribuloides*, etc., with the amounts of 11.84-83.90 kg.ha⁻¹.

In 33-year-old stand, 52 species of succession tree species was existed. *M. acuminata* had the highest stored nitrogen (23.39 kg.ha⁻¹). *W. tinctoria*, *C. iners*, *A. chinensis*, *M. henryi*, *M. barbatus* and *D. oliveri* had the lower amounts of 0.77-16.75 kg.ha⁻¹.

In 34-year-old stand, *C. purpurea* had the highest stored nitrogen among succession trees of 49 species. The amount was 272.35 kg.ha⁻¹. The lower amounts (14.20-122.20 kg.ha⁻¹) were found for *Q. vestita*, *S. wallichii*, *Q. brandisiana*, *S. cumini*, *W. tinctoria*, *D. assamica*, etc.

Phosphorus:

The stored phosphorus in forest biomass was varied with the values between 44-127 kg.ha⁻¹. It was the highest in 31-year-old stand, and the lowest in 20-year-old stand (Table 3-6).

In 14-year-old stand, among 35 species of succession trees, *G. sphaerogynum* had the highest stored phosphorus in biomass (15.12 kg.ha⁻¹). The lower amounts

were observed for *S. wallichii*, *Albizia chinensis*, *C. arborea*, *Litsea* sp., *C. diversifolia*, *F. ribes*, *E. candollei*, etc. The values were 1.63-8.34 kg.ha⁻¹.

In 15-year-old stand, there was 53 species of succession trees. *S. wallichii* had the highest stored phosphorus, 9.64 kg.ha⁻¹. The other trees having the lower amounts (1.90-8.22 kg.ha⁻¹) were *C. acuminatissima*, *Engelhardtia spicata*, *B. gammieana*, *D. aurea*, *T. gymnanthera*, *H. terminalis*, *P. paniculata*, *T. connaroides*, *S. neuranthum*, etc.

In 16-year-old stand, 32 species of succession trees were existed. *S. wallichii* had the highest stored phosphorus (3.72 kg.ha⁻¹), followed by *C. subulatum*, *W. tinctoria*, *S. parviflorus*, etc. The values varied between 1.19-1.38 kg.ha⁻¹.

In 17-year-old stand, the high number as 60 species of succession trees was found. *Schima wallichii* had the highest stored phosphorus (9.14 kg.ha⁻¹). The trees having lower amounts (2.39-7.62 kg.ha⁻¹) were calculated for *M. esculenta*, *E. spicata*, *C. diversifolia*, *Q. semiserrata*, *H. terminalis*, *C. acuminatissima*, *P. cathia*, *W. tinctoria*, *S. albiflorum*, *E. sphaericus*, etc.

In 18-year-old stand, among 45 species of succession trees, *C. purpurea* had the highest stored phosphorus (9.43 kg.ha⁻¹). The lower amounts (2.43-4.62 kg.ha⁻¹) were *S. wallichii*, *E. candollei*, *C. acuminatissima*, *Q. vestita*, *C. diversifolia*, *W. tinctoria*, *G. sphaerogynum*, *D. assamica*, *A. megaladena*, etc.

In 19-year-old stand, existing succession trees were 37 species. *C. diversifolia* had the highest stored phosphorus (8.39 kg.ha⁻¹). They were followed by *E. candollei*, *C. purpurea*, *A. chinensis*, *W. tinctoria*, *T. gymnanthera*, etc. The values varied between 2.10-5.68 kg.ha⁻¹.

In 20-year-old stand, there was the lowest number of succession tree species among plantations as 16 species, and *B. variegata* had the highest stored phosphorus (3.58 kg.ha⁻¹), followed by *E. candollei*, *S. albiflorum*, *C. diversifolia*, etc, with the values of 0.51-3.08 kg.ha⁻¹.

In 21-year-old stand, there was 40 species of succession trees. *S. wallichii* had the highest stored phosphorus (19.65 kg.ha⁻¹). The lower amounts (1.77-8.51 kg.ha⁻¹) were observed for *C. acuminatissima*, *Anneslea fragrans*, *S. albiflorum*, *C. diversifolia*, *L. elegans*, *W. tinctoria*, *E. sphaericus*, *M. esculenta*, *B. lanzan*, etc.

In 22-year-old stand, the number as 60 species of succession trees was found. The stored phosphorus in biomass was the highest for *Q. brandisiana*, 12.38 kg.ha⁻¹. They were followed by *Q. vestita*, *L. polystachyus*, *Dalbergia cultrata*, *S. wallichii*, *W. tinctoria*, *G. obovata*, *L. elegans*, *T. rufescens*, *L. sootepensis*, *C. purpurea*, *F. ribes*, *A. fragrans*, etc, with the values of 1.56-5.95 kg.ha⁻¹.

In 23-year-old stand, *Q. vestita* had the highest stored phosphorus (18.12 kg.ha⁻¹) among 49 species. They were followed by *L. polystachyus*, *S. wallichii*, *L. sootepensis*, *L. elegans*, *Q. kingiana*, etc., with the values between 1.79-11.72 kg.ha⁻¹.

In 24-year-old stand, the number of succession tree species was high as 45 tree species. *C. diversifolia* had the highest stored phosphorus (32.77 kg.ha⁻¹). The amounts of 2.04-10.93 kg.ha⁻¹ were belonged to *S. wallichii*, *E. sphaericus*, *S. arboreum*, *S. cumini*, *H. terminalis*, *E. subumbrans*, *G. sphaerogynum*, etc.

In 25-year-old stand, succession tree species in this stand consisted of 38 species, and *S. wallichii* had the highest stored phosphorus (11.48 kg.ha⁻¹). The amounts were lower for *C. diversifolia*, *S. albiflorum*, *C. purpurea*, *A. fragrans*, *C. acuminatissima* and *W. tinctoria*, with the values of 1.71-6.59 kg.ha⁻¹.

In 26-year-old stand, there were 30 species of succession tree species. *S. wallichii* had the highest stored phosphorus (25.63 kg.ha⁻¹). The amounts of 1.68-10.33 kg.ha⁻¹ were belonged to *Q. semiserrata*, *C. diversifolia*, *H. nilagirica*, *S. albiflorum*, *T. gymnanthera*, *S. neuranthum*, *S. cumini*, *C. purpurea*, *D. aurea*, *P. paniculata*, etc.

In 27-year-old stand, the number of succession tree species was high as 69 species, and the highest stored phosphorus was *S. wallichii* (40.38 kg.ha⁻¹). The amounts of 1.67-4.24 kg.ha⁻¹ were stored in *C. diversifolia*, *G. sphaerogynum*, *P. paniculata*, *E. sphaericus*, *D. velutina*, *B. alnoides*, *B. lanzan*, *C. purpurea*, *W. tinctoria*, etc.

In 28-year-old stand, 34 species of succession tree species was composed in this stand. The species having the highest stored phosphorus (17.28 kg.ha⁻¹) in the stand was *S. wallichii*. They were followed by *E. spicata*, *G. sphaerogynum*, *M. stipulata*, *C. diversifolia*, with the values of 0.97-2.03 kg.ha⁻¹.

In 29-year-old stand, among 31 species of succession tree species, *C. purpurea* had the highest stored phosphorus (8.76 kg.ha⁻¹). The lower amounts of 3.26-7.43 kg.ha⁻¹ were calculated for *S. wallichii*, *H. terminalis*, *A. fragrans*, etc.

In 30-year-old stand, the total number of succession tree species was 35 species. *C. diversifolia* had the highest amount of stored phosphorus (19.53 kg.ha⁻¹), and followed by *S. wallichii*, *C. purpurea*, *D. assamica*, *E. spicata*, *L. elegans*, etc., with the values of 3.31-17.96 kg.ha⁻¹.

In 31-year-old stand, there was 38 succession tree species, and *C. diversifolia* had the highest amount of stored phosphorus (34.53 kg.ha⁻¹). They were followed by *S. wallichii*, *C. acuminatissima*, *S. albiflorum*, *W. tinctoria*, *M. esculenta*, *O. salicifolia*, *S. cumini* and *H. terminalis*, with the values between 2.49-26.71 kg.ha⁻¹.

In 32-year-old stand, the total succession tree species in the stand was 33 species. *S. wallichii* had the highest stored phosphorus (31.82 kg.ha⁻¹), and followed by *S. cumini*, *C. acuminatissima*, *P. paniculata*, *X. virens*, *E. sphaericus*, *M. henryi*, *C. tribuloides*, etc., with the amounts of 1.66-12.33 kg.ha⁻¹.

In 33-year-old stand, 52 species of succession tree species was existed. *M. acuminata* had the highest stored phosphorus (2.96 kg.ha⁻¹). *W. tinctoria*, *C. iners*, *A. chinensis*, *M. henryi*, *M. barbatus* and *D. oliveri* had the lower amounts of 0.10-2.39 kg.ha⁻¹.

In 34-year-old stand, *C. purpurea* had the highest stored phosphorus among succession trees of 49 species. The amount was 37.91 kg.ha⁻¹. The lower amounts (1.93-17.30 kg.ha⁻¹) were found for *Q. vestita*, *S. wallichii*, *Q. brandisiana*, *S. cumini*, *W. tinctoria*, *D. assamica*, etc.

Potassium:

The stored potassium in forest biomass were varied with the values between 263-680 kg.ha⁻¹. It was the highest in 26-year-old stand, and the lowest in 20-year-old stand (Table 3-7).

In 14-year-old stand, among 35 species of succession trees *G. sphaerogynum* had the highest stored potassium in biomass (75.92 kg.ha⁻¹). The lower amounts were observed for *S. wallichii*, *A. chinensis*, *C. arborea*, *Litsea* sp., *C. diversifolia*, *F. ribes*, *E. candollei*, etc. The values were 8.00-40.81 kg.ha⁻¹.

In 15-year-old stand, there was 53 species of succession trees. *S. wallichii* had the highest stored potassium, 47.48 kg.ha⁻¹. The other trees having the lower amounts (9.26-39.68 kg.ha⁻¹) were *C. acuminatissima*, *E. spicata*, *B. gammieana*, *D. aurea*, *T. gymnanthera*, *H. terminalis*, *P. paniculata*, *T. connaroides*, *S. neuranthum*, etc.

In 16-year-old stand, 32 species of succession trees were existed. *S. wallichii* had the highest stored potassium (18.48 kg.ha⁻¹), followed by *C. subulatum*, *W. tinctoria*, *S. parviflorus*, etc. The values varied between 5.88-6.82 kg.ha⁻¹.

In 17-year-old stand, the high number as 60 species of succession trees was found. *Schima wallichii* had the highest stored potassium (45.40 kg.ha⁻¹). The lower amounts (11.71-37.54 kg.ha⁻¹) were calculated for *M. esculenta*, *E. spicata*, *C. diversifolia*, *Q. semiserrata*, *H. terminalis*, *C. acuminatissima*, *P. cathia*, *W. tinctoria*, *S. albiflorum*, *E. sphaericus*, etc.

In 18-year-old stand, among 45 species of succession trees *C. purpurea*, had the highest stored potassium (47.01 kg.ha⁻¹). The other trees having the lower amounts (11.68-22.83 kg.ha⁻¹) were *S. wallichii*, *E. candollei*, *C. acuminatissima*, *Q. vestita*, *C. diversifolia*, *W. tinctoria*, *G. sphaerogynum*, *D. assamica*, *A. megaladena*, etc.

In 19-year-old stand, existing succession trees were 37 species. *C. diversifolia* had the highest stored potassium (41.77 kg.ha⁻¹). They were followed by *E. candollei*, *C. purpurea*, *A. chinensis*, *W. tinctoria*, *T. gymnanthera*, etc. The values varied between 10.28-28.18 kg.ha⁻¹.

In 20-year-old stand, there was the lowest number of succession tree species among plantations as 16 species, and *B. variegata* had the highest stored potassium (17.80 kg.ha⁻¹), followed by *E. candollei*, *S. albiflorum*, *C. diversifolia*, etc, with the values of 2.57-15.28 kg.ha⁻¹.

In 21-year-old stand, there was 40 species of succession trees. *S. wallichii* had the highest stored potassium (96.50 kg.ha⁻¹). The lower amounts (8.77-41.82 kg.ha⁻¹) were observed for *C. acuminatissima*, *A. fragrans*, *S. albiflorum*, *C. diversifolia*, *L. elegans*, *W. tinctoria*, *E. sphaericus*, *M. esculenta*, *B. lanzan*, etc.

In 22-year-old stand, the number as 60 species of succession trees was found. The stored potassium in biomass was the highest for *Q. brandisiana*, 6162 kg.ha⁻¹. They were followed by *Q. vestita*, *L. polystachyus*, *D. cultrata*, *S. wallichii*, *W. tinctoria*, *G. obovata*, *L. elegans*, *T. rufescens*, *L. sootepensis*, *C. purpurea*, *F. ribes*, *A. fragrans*, etc, with the values of 7.95-30.48 kg.ha⁻¹.

In 23-year-old stand, *Q. vestita* had the highest stored potassium (89.37 kg.ha⁻¹) among 49 species. They were followed by *L. polystachyus*, *S. wallichii*, *L. sootepensis*, *L. elegans*, *Q. kingiana*, etc., with the values between 9.18-58.02 kg.ha⁻¹.

In 24-year-old stand, the number of succession tree species was high as 45 tree species. *C. diversifolia* had the highest stored potassium (156.24 kg.ha⁻¹). The amounts of 10.07-53.01 kg.ha⁻¹ were belonged to *S. wallichii*, *E. sphaericus*, *S. arboreum*, *S. cumini*, *H. terminalis*, *E. subumbrans*, *G. sphaerogynum*, etc.

In 25-year-old stand, succession tree species in this stand consisted of 38 species, and *S. wallichii* had the highest stored potassium (56.53 kg.ha⁻¹). The amounts were lower for *C. diversifolia*, *S. albiflorum*, *C. purpurea*, *A. fragrans*, *C. acuminatissima* and *W. tinctoria*, with the values of 8.95-32.31 kg.ha⁻¹.

In 26-year-old stand, there were 30 species of succession tree species. *S. wallichii* had the highest stored potassium (124.92 kg.ha⁻¹). The amounts of 8.25-

48.77 kg.ha⁻¹ were belonged to *Q. semiserrata*, *C. diversifolia*, *H. nilagirica*, *S. albiflorum*, *T. gymnanthera*, *S. neuranthum*, *S. cumini*, *C. purpurea*, *D. aurea*, *P. paniculata*, etc.

In 27-year-old stand, the number of succession tree species was high as 69 species, and the highest stored potassium was *S. wallichii* (198.87 kg.ha⁻¹). The amounts of 8.48-20.93 kg.ha⁻¹ were stored in *C. diversifolia*, *G. sphaerogynum*, *P. paniculata*, *E. sphaericus*, *D. velutina*, *B. alnoides*, *B. lanzan*, *C. purpurea*, *W. tinctoria*, etc.

In 28-year-old stand, 34 species of succession tree species was composed in this stand. The species having the highest stored potassium (84.45 kg.ha⁻¹) in the stand was *S. wallichii*. They were followed by *E. spicata*, *G. sphaerogynum*, *M. stipulata*, *C. diversifolia*, with the values of 4.80-10.09 kg.ha⁻¹.

In 29-year-old stand, among 31 species of succession tree species, *C. purpurea* had the highest stored potassium (43.08 kg.ha⁻¹). The lower amounts of 15.72-36.35 kg.ha⁻¹ were calculated for *S. wallichii*, *H. terminalis*, *A. fragrans*, etc.

In 30-year-old stand, the total number of succession tree species was 35 species. *C. diversifolia* had the highest amount of stored potassium (92.91 kg.ha⁻¹), and followed by *S. wallichii*, *C. purpurea*, *D. assamica*, *E. spicata*, *L. elegans*, etc., with the values of 16.57-88.87 kg.ha⁻¹.

In 31-year-old stand, there was 38 succession tree species, and *C. diversifolia* had the highest amount of stored potassium (167.91 kg.ha⁻¹). They were followed by *S. wallichii*, *C. acuminatissima*, *S. albiflorum*, *W. tinctoria*, *M. esculenta*, *O. salicifolia*, *S. cumini* and *H. terminalis*, with the values between 12.48-130.72 kg.ha⁻¹.

In 32-year-old stand, the total succession tree species in the stand was 33 species. *S. wallichii* had the highest stored potassium (154.42 kg.ha⁻¹), and followed by *S. cumini*, *C. acuminatissima*, *P. paniculata*, *X. virens*, *E. sphaericus*, *M. henryi*, *C. tribuloides*, etc., with the amounts of 8.09-58.11 kg.ha⁻¹.

In 33-year-old stand, 52 species of succession tree species was existed. *M. acuminata* had the highest stored potassium (15.66 kg.ha⁻¹). *W. tinctoria*, *C. iners*, *A. chinensis*, *M. henryi*, *M. barbatus* and *D. oliveri* had the lower amounts of 0.52-11.51 kg.ha⁻¹.

In 34-year-old stand, *C. purpurea* had the highest stored potassium among succession trees of 49 species. The amount was 185.97 kg.ha⁻¹. The lower amounts (9.65-83.79 kg.ha⁻¹) were found for *Q. vestita*, *S. wallichii*, *Q. brandisiana*, *S. cumini*, *W. tinctoria*, *D. assamica*, etc.

Calcium:

The stored calcium in forest biomass were varied with the values between 480-1,329 kg.ha⁻¹. It was the highest in 26-year-old stand, and the lowest in 20-year-old stand (Table 3-8).

In 14-year-old stand, among 35 species of succession trees *G. sphaerogynum* had the highest stored calcium in biomass (162.10 kg.ha⁻¹). The lower amounts were observed for *S. wallichii*, *A. chinensis*, *C. arborea*, *Litsea* sp., *C. diversifolia*, *F. ribes*, *E. candollei*, etc. The values were 17.05-86.88 kg.ha⁻¹.

In 15-year-old stand, there was 53 species of succession trees. *S. wallichii* had the highest stored calcium, 101.15 kg.ha⁻¹. The other trees having the lower amounts

(19.72-84.28 kg.ha⁻¹) were *C. acuminatissima*, *E. spicata*, *B. gammieana*, *D. aurea*, *T. gymnanthera*, *H. terminalis*, *P. paniculata*, *T. connaroides*, *S. neuranthum*, etc.

In 16-year-old stand, 32 species of succession trees were existed. *S. wallichii* had the highest stored calcium (39.41 kg.ha⁻¹), followed by *C. subulatum*, *W. tinctoria*, *S. parviflorus*, etc. The values varied between 12.54-14.53 kg.ha⁻¹.

In 17-year-old stand, the high number as 60 species of succession trees was found. *S. wallichii* had the highest stored calcium (96.84 kg.ha⁻¹). The lower amounts (24.92-80.02 kg.ha⁻¹) were calculated for *M. esculenta*, *E. spicata*, *C. diversifolia*, *Q. semiserrata*, *H. terminalis*, *C. acuminatissima*, *P. cathia*, *W. tinctoria*, *S. albiflorum*, *E. sphaericus*, etc.

In 18-year-old stand, among 45 species of succession trees *C. purpurea*, had the highest stored calcium (100.31 kg.ha⁻¹). The trees having lower amounts (24.79-48.65 kg.ha⁻¹) were *S. wallichii*, *E. candollei*, *C. acuminatissima*, *Q. vestita*, *C. diversifolia*, *W. tinctoria*, *G. sphaerogynum*, *D. assamica*, *A. megaladena*, etc.

In 19-year-old stand, existing succession trees were 37 species. *C. diversifolia* had the highest stored calcium (89.14 kg.ha⁻¹). They were followed by *E. candollei*, *C. purpurea*, *A. chinensis*, *W. tinctoria*, *T. gymnanthera*, etc. The values varied between 21.89-60.09 kg.ha⁻¹.

In 20-year-old stand, there was the lowest number of succession tree species among plantations as 16 species, and *B. variegata* had the highest stored calcium (37.97 kg.ha⁻¹), followed by *E. candollei*, *S. albiflorum*, *C. diversifolia*, etc, with the values of 5.48-32.60 kg.ha⁻¹.

In 21-year-old stand, there was 40 species of succession trees. *S. wallichii* had the highest stored calcium (205.51 kg.ha⁻¹). The lower amounts (18.70-89.11 kg.ha⁻¹) were observed for *C. acuminatissima*, *A. fragrans*, *S. albiflorum*, *C. diversifolia*, *L. elegans*, *W. tinctoria*, *E. sphaericus*, *M. esculenta*, *B. lanzan*, etc.

In 22-year-old stand, the number as 60 species of succession trees was found. The stored calcium in biomass was the highest for *Q. brandisiana*, 131.42 kg.ha⁻¹. They were followed by *Q. vestita*, *L. polystachyus*, *D. cultrata*, *S. wallichii*, *W. tinctoria*, *G. obovata*, *L. elegans*, *T. rufescens*, *L. sootepensis*, *C. purpurea*, *F. ribes*, *A. fragrans*, etc, with the values of 16.98-65.14 kg.ha⁻¹.

In 23-year-old stand, *Q. vestita* had the highest stored calcium (190.41 kg.ha⁻¹) among 49 species. They were followed by *L. polystachyus*, *S. wallichii*, *L. sootepensis*, *L. elegans*, *Q. kingiana*, etc., with the values between 19.62-123.68 kg.ha⁻¹.

In 24-year-old stand, the number of succession tree species was high as 45 tree species. *C. diversifolia* had the highest stored calcium (330.87 kg.ha⁻¹). The amounts of 21.47-112.65 kg.ha⁻¹ were belonged to *S. wallichii*, *E. sphaericus*, *S. arboreum*, *S. cumini*, *H. terminalis*, *E. subumbrans*, *G. sphaerogynum*, etc.

In 25-year-old stand, succession tree species in this stand consisted of 38 species, and *S. wallichii* had the highest stored calcium (120.45 kg.ha⁻¹). The amounts were lower for *C. diversifolia*, *S. albiflorum*, *C. purpurea*, *A. fragrans*, *C. acuminatissima* and *W. tinctoria*, with the values of 19.13-68.80 kg.ha⁻¹.

In 26-year-old stand, there were 30 species of succession tree species. *S. wallichii* had the highest stored calcium (265.72 kg.ha⁻¹). The amounts of 17.58-103.04 kg.ha⁻¹ were belonged to *Q. semiserrata*, *C. diversifolia*, *H. nilagirica*, *S.*

albiflorum, *T. gymnanthera*, *S. neuranthum*, *S. cumini*, *C. purpurea*, *D. aurea*, *P. paniculata*, etc.

In 27-year-old stand, the number of succession tree species was high as 69 species, and the highest stored calcium was *S. wallichii* (423.86 kg.ha⁻¹). The amounts of 18.11-44.63 kg.ha⁻¹ were stored in *C. diversifolia*, *G. sphaerogynum*, *P. paniculata*, *E. sphaericus*, *D. velutina*, *B. alnoides*, *B. lanzan*, *C. purpurea*, *W. tinctoria*, etc.

In 28-year-old stand, 34 species of succession tree species was composed in this stand. The species having the highest stored calcium (179.81 kg.ha⁻¹) in the stand was *S. wallichii*. They were followed by *E. spicata*, *G. sphaerogynum*, *M. stipulata*, *C. diversifolia*, with the values of 10.24-21.51 kg.ha⁻¹.

In 29-year-old stand, among 31 species of succession tree species, *C. purpurea* had the highest stored calcium (91.73 kg.ha⁻¹). The lower amounts of 33.39-77.38 kg.ha⁻¹ were calculated for *S. wallichii*, *H. terminalis*, *A. fragrans*, etc.

In 30-year-old stand, the total number of succession tree species was 35 species. *C. diversifolia* had the highest amount of stored calcium (196.54 kg.ha⁻¹), and followed by *S. wallichii*, *C. purpurea*, *D. assamica*, *E. spicata*, *L. elegans*, etc., with the values of 35.38-189.52 kg.ha⁻¹.

In 31-year-old stand, there was 38 succession tree species, and *C. diversifolia* had the highest amount of stored calcium (357.03 kg.ha⁻¹). They were followed by *S. wallichii*, *C. acuminatissima*, *S. albiflorum*, *W. tinctoria*, *M. esculenta*, *O. salicifolia*, *S. cumini* and *H. terminalis*, with the values between 26.63-278.24 kg.ha⁻¹.

In 32-year-old stand, the total succession tree species in the stand was 33 species. *S. wallichii* had the highest stored calcium (328.29 kg.ha⁻¹), and followed by *S. cumini*, *C. acuminatissima*, *P. paniculata*, *X. virens*, *E. sphaericus*, *M. henryi*, *C. tribuloides*, etc., with the amounts of 17.24-122.70 kg.ha⁻¹.

In 33-year-old stand, 52 species of succession tree species was existed. *M. acuminata* had the highest stored calcium (33.44 kg.ha⁻¹). *W. tinctoria*, *C. iners*, *A. chinensis*, *M. henryi*, *M. barbatus* and *D. oliveri* had the lower amounts of 1.12-24.43 kg.ha⁻¹.

In 34-year-old stand, *C. purpurea* had the highest stored calcium among succession trees of 49 species. The amount was 396.08 kg.ha⁻¹. The lower amounts (20.58-178.10 kg.ha⁻¹) were found for *Q. vestita*, *S. wallichii*, *Q. brandisiana*, *S. cumini*, *W. tinctoria*, *D. assamica*, etc.

Magnesium:

The stored magnesium in forest biomass were varied with the values between 75-279 kg.ha⁻¹. It was the highest in 31-year-old stand, and the lowest in 20-year-old stand (Table 3-9).

In 14-year-old stand, among 35 species of succession trees *G. sphaerogynum* had the highest stored magnesium in biomass (36.60 kg.ha⁻¹). The lower amounts were observed for *S. wallichii*, *A. chinensis*, *C. arborea*, *Litsea* sp., *C. diversifolia*, *F. ribes*, *E. candollei*, etc. The values were 3.82-19.46 kg.ha⁻¹.

In 15-year-old stand, there was 53 species of succession trees. *S. wallichii* had the highest stored magnesium, 22.70 kg.ha⁻¹. The other trees having the lower amounts (4.41-18.82 kg.ha⁻¹) were *C. acuminatissima*, *E. spicata*, *B. gammieana*, *D.*

aurea, *T. gymnanthera*, *H. terminalis*, *P. paniculata*, *T. connaroides*, *S. neuranthum*, etc.

In 16-year-old stand, 32 species of succession trees were existed. *S. wallichii* had the highest stored magnesium ($8.85 \text{ kg}\cdot\text{ha}^{-1}$), followed by *C. subulatum*, *W. tinctoria*, *S. parviflorus*, etc. The values varied between $2.81\text{-}3.26 \text{ kg}\cdot\text{ha}^{-1}$.

In 17-year-old stand, the high number as 60 species of succession trees was found. *S. wallichii* had the highest stored magnesium ($21.78 \text{ kg}\cdot\text{ha}^{-1}$). The lower amounts ($5.58\text{-}17.95 \text{ kg}\cdot\text{ha}^{-1}$) were calculated for *M. esculenta*, *E. spicata*, *C. diversifolia*, *Q. semiserrata*, *H. terminalis*, *C. acuminatissima*, *P. cathia*, *W. tinctoria*, *S. albiflorum*, *E. sphaericus*, etc.

In 18-year-old stand, among 45 species of succession trees *C. purpurea*, had the highest stored magnesium ($22.59 \text{ kg}\cdot\text{ha}^{-1}$). The trees having lower amounts ($5.53\text{-}10.93 \text{ kg}\cdot\text{ha}^{-1}$) were *S. wallichii*, *E. candollei*, *C. acuminatissima*, *Q. vestita*, *C. diversifolia*, *W. tinctoria*, *G. sphaerogynum*, *D. assamica*, *A. megaladena*, etc.

In 19-year-old stand, existing succession trees were 37 species. *C. diversifolia* had the highest stored magnesium ($20.06 \text{ kg}\cdot\text{ha}^{-1}$). They were followed by *E. candollei*, *C. purpurea*, *A. chinensis*, *W. tinctoria*, *T. gymnanthera*, etc. The values varied between $4.90\text{-}13.51 \text{ kg}\cdot\text{ha}^{-1}$.

In 20-year-old stand, there was the lowest number of succession tree species among plantations as 16 species, and *B. variegata* had the highest stored magnesium ($8.54 \text{ kg}\cdot\text{ha}^{-1}$), followed by *E. candollei*, *S. albiflorum*, *C. diversifolia*, etc, with the values of $1.24\text{-}7.32 \text{ kg}\cdot\text{ha}^{-1}$.

In 21-year-old stand, there was 40 species of succession trees. *S. wallichii* had the highest stored magnesium ($46.10 \text{ kg}\cdot\text{ha}^{-1}$). The lower amounts ($4.20\text{-}19.96 \text{ kg}\cdot\text{ha}^{-1}$) were observed for *C. acuminatissima*, *Anneslea fragrans*, *S. albiflorum*, *C. diversifolia*, *L. elegans*, *W. tinctoria*, *E. sphaericus*, *M. esculenta*, *B. lanzan*, etc.

In 22-year-old stand, the number as 60 species of succession trees was found. The stored magnesium in biomass was the highest for *Q. brandisiana*, $29.59 \text{ kg}\cdot\text{ha}^{-1}$. They were followed by *Q. vestita*, *L. polystachyus*, *D. cultrata*, *S. wallichii*, *W. tinctoria*, *G. obovata*, *L. elegans*, *T. rufescens*, *L. sootepensis*, *C. purpurea*, *F. ribes*, *A. fragrans*, etc, with the values of $3.86\text{-}14.84 \text{ kg}\cdot\text{ha}^{-1}$.

In 23-year-old stand, *Q. vestita* had the highest stored magnesium ($42.77 \text{ kg}\cdot\text{ha}^{-1}$) among 49 species. They were followed by *L. polystachyus*, *S. wallichii*, *L. sootepensis*, *L. elegans*, *Q. kingiana*, etc., with the values between $4.47\text{-}27.80 \text{ kg}\cdot\text{ha}^{-1}$.

In 24-year-old stand, the number of succession tree species was high as 45 tree species. *C. diversifolia* had the highest stored magnesium ($73.92 \text{ kg}\cdot\text{ha}^{-1}$). The amounts of $4.82\text{-}25.21 \text{ kg}\cdot\text{ha}^{-1}$ were belonged to *S. wallichii*, *E. sphaericus*, *S. arboreum*, *S. cumini*, *H. terminalis*, *E. subumbrans*, *G. sphaerogynum*, etc.

In 25-year-old stand, succession tree species in this stand consisted of 38 species, and *S. wallichii* had the highest stored magnesium ($27.03 \text{ kg}\cdot\text{ha}^{-1}$). The amounts were lower for *C. diversifolia*, *S. albiflorum*, *C. purpurea*, *A. fragrans*, *C. acuminatissima* and *W. tinctoria*, with the values of $4.41\text{-}15.42 \text{ kg}\cdot\text{ha}^{-1}$.

In 26-year-old stand, there were 30 species of succession tree species. *S. wallichii* had the highest stored magnesium ($59.50 \text{ kg}\cdot\text{ha}^{-1}$). The amounts of $3.94\text{-}23.01 \text{ kg}\cdot\text{ha}^{-1}$ were belonged to *Q. semiserrata*, *C. diversifolia*, *H. nilagirica*, *S. albiflorum*, *T. gymnanthera*, *S. neuranthum*, *S. cumini*, *C. purpurea*, *D. aurea*, *P. paniculata*, etc.

In 27-year-old stand, the number of succession tree species was high as 69 species, and the highest stored magnesium was *S. wallichii* (95.04 kg.ha⁻¹). The amounts of 4.11-10.01 kg.ha⁻¹ were stored in *C. diversifolia*, *G. sphaerogynum*, *P. paniculata*, *E. sphaericus*, *D. velutina*, *B. alnoides*, *B. lanzan*, *C. purpurea*, *W. tinctoria*, etc.

In 28-year-old stand, 34 species of succession tree species was composed in this stand. The species having the highest stored magnesium (40.23 kg.ha⁻¹) in the stand was *S. wallichii*. They were followed by *E. spicata*, *G. sphaerogynum*, *M. stipulata*, *C. diversifolia*, with the values of 2.30-4.84 kg.ha⁻¹.

In 29-year-old stand, among 31 species of succession tree species, *C. purpurea* had the highest stored magnesium (20.60 kg.ha⁻¹). The lower amounts of 7.46-17.33 kg.ha⁻¹ were calculated for *S. wallichii*, *H. terminalis*, *A. fragrans*, etc.

In 30-year-old stand, the total number of succession tree species was 35 species. *C. diversifolia* had the highest amount of stored magnesium (43.96 kg.ha⁻¹), and followed by *S. wallichii*, *C. purpurea*, *D. assamica*, *E. spicata*, *L. elegans*, etc., with the values of 7.97-42.55 kg.ha⁻¹.

In 31-year-old stand, there was 38 succession tree species, and *C. diversifolia* had the highest amount of stored magnesium (79.90 kg.ha⁻¹). They were followed by *S. wallichii*, *C. acuminatissima*, *S. albiflorum*, *W. tinctoria*, *M. esculenta*, *O. salicifolia*, *S. cumini* and *H. terminalis*, with the values between 6.00-62.34 kg.ha⁻¹.

In 32-year-old stand, the total succession tree species in the stand was 33 species. *S. wallichii* had the highest stored magnesium (73.41 kg.ha⁻¹), and followed by *S. cumini*, *C. acuminatissima*, *P. paniculata*, *X. virens*, *E. sphaericus*, *M. henryi*, *C. tribuloides*, etc., with the amounts of 3.86-27.41 kg.ha⁻¹.

In 33-year-old stand, 52 species of succession tree species was existed. *M. acuminata* had the highest stored magnesium (7.77 kg.ha⁻¹). *W. tinctoria*, *C. iners*, *A. chinensis*, *M. henryi*, *M. barbatus* and *D. oliveri* had the lower amounts of 0.25-5.46 kg.ha⁻¹.

In 34-year-old stand, *C. purpurea* had the highest stored magnesium among succession trees of 49 species. The amount was 88.75 kg.ha⁻¹. The lower amounts (4.64-39.80 kg.ha⁻¹) were found for *Q. vestita*, *S. wallichii*, *Q. brandisiana*, *S. cumini*, *W. tinctoria*, *D. assamica*, etc.

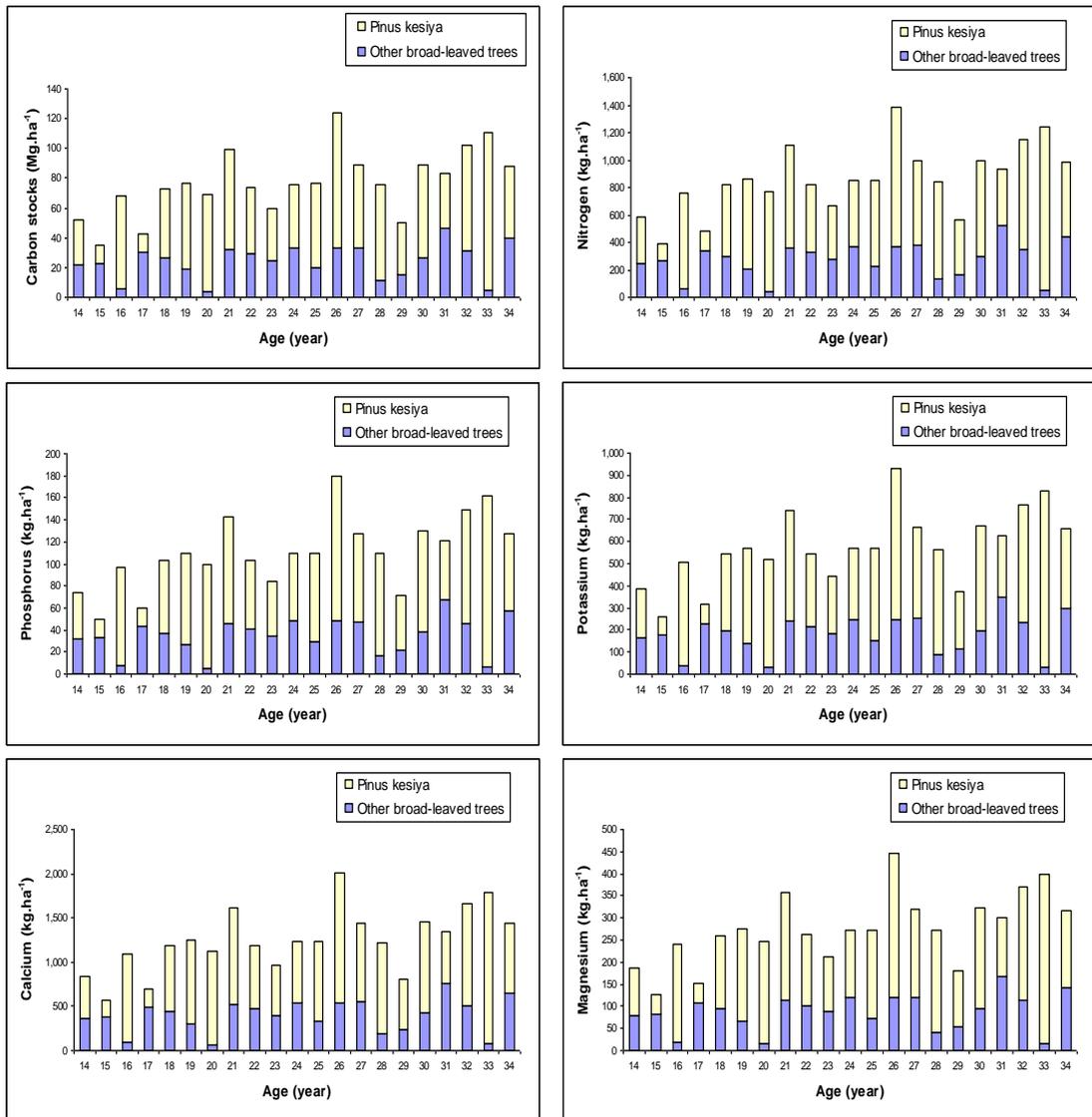


Figure 3-1 Stored biomass nutrients in a series of pine plantations

Table 3-1 Stored biomass nutrients of pine trees in a series of pine plantations

Nutrient	Age (year)																				
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1 Carbon (Mg.ha ⁻¹)	30	12	62	12	46	58	66	68	45	35	43	56	91	56	64	35	63	37	72	106	49
C _S	20	8	42	8	31	39	44	45	30	24	29	38	61	37	42	24	42	24	48	71	32
C _B	3	1	7	1	5	6	7	8	5	4	5	6	11	6	8	4	8	5	9	14	6
C _L	1	0	1	0	1	1	2	2	1	1	1	1	2	1	1	1	1	1	2	2	1
C _R	6	2	12	2	9	12	13	13	9	7	9	11	17	11	12	7	12	7	14	20	9
2 Nitrogen (kg.ha ⁻¹)	138	55	289	57	215	272	305	315	208	164	202	263	421	258	294	165	291	168	331	490	225
N _S	38	15	79	15	59	74	84	86	57	45	55	72	116	71	81	45	80	46	91	134	62
N _B	19	7	40	7	29	35	40	42	27	21	25	34	61	36	45	22	44	26	48	76	34
N _L	18	7	37	7	28	35	39	40	27	21	26	34	54	33	38	21	37	21	42	63	29
N _R	63	26	133	27	99	127	142	146	98	77	95	124	191	118	131	77	131	75	149	217	101
3 Phosphorus (kg.ha ⁻¹)	16	6	33	6	25	31	35	36	24	19	23	30	49	30	35	19	34	20	39	58	26
P _S	8	3	16	3	12	15	17	17	11	9	11	14	23	14	16	9	16	9	18	27	12
P _B	4	2	8	1	6	7	8	9	6	4	5	7	13	8	9	5	9	5	10	16	7
P _L	2	1	4	1	3	4	4	5	3	2	3	4	6	4	4	2	4	2	5	7	3
P _R	2	1	5	1	4	5	5	6	4	3	4	5	7	4	5	3	5	3	6	8	4
4 Potassium (kg.ha ⁻¹)	100	40	209	40	156	195	219	227	149	117	144	188	307	187	216	118	214	124	242	362	165
K _S	34	14	71	14	53	67	75	78	51	40	50	65	104	64	73	41	72	42	82	121	56
K _B	25	9	52	9	38	46	52	55	34	28	33	43	79	47	58	28	56	33	63	99	43
K _L	9	4	19	4	14	18	20	20	13	11	13	17	27	17	19	11	19	11	21	32	15
K _R	32	13	68	14	51	65	73	74	50	39	49	63	97	60	67	39	66	38	76	110	52
5 Calcium (kg.ha ⁻¹)	176	70	367	72	273	344	386	399	263	207	255	332	536	328	376	208	372	215	421	627	287
Ca _S	23	9	47	9	35	45	50	52	34	27	33	43	69	42	48	27	48	28	54	81	37
Ca _B	44	16	90	16	66	80	90	95	60	48	57	76	138	81	101	49	98	58	109	172	76
Ca _L	4	2	9	2	7	8	9	10	6	5	6	8	13	8	9	5	9	5	10	15	7
Ca _R	105	43	220	44	165	211	237	243	163	127	158	205	317	197	217	127	217	124	248	360	168
6 Magnesium (kg.ha ⁻¹)	24	10	51	10	38	48	54	55	37	29	36	46	74	45	52	29	51	30	58	86	40
Mg _S	8	3	16	3	12	15	17	17	11	9	11	14	23	14	16	9	16	9	18	27	12
Mg _B	3	1	7	1	5	6	7	7	4	4	4	6	10	6	7	4	7	4	8	13	6
Mg _L	2	1	3	1	2	3	3	4	2	2	2	3	5	3	3	2	3	2	4	6	3
Mg _R	12	5	25	5	19	24	27	28	18	14	18	23	36	22	25	14	25	14	28	41	19

Table 3-2 Stored biomass nutrients of succession trees in a series of pine plantations

Nutrient	Age (year)																				
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1 Carbon (Mg.ha ⁻¹)	32	34	8	44	38	27	6	47	41	36	50	30	49	49	17	22	39	69	47	7	59
C _S	21	22	5	29	25	17	4	30	26	23	32	19	32	32	11	14	25	45	31	4	38
C _B	6	7	1	8	7	5	1	9	7	6	10	6	10	9	3	4	8	14	10	1	11
C _L	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	0	1
C _R	5	5	1	6	6	4	1	7	7	5	6	4	6	7	2	3	5	9	6	1	8
2 Nitrogen (kg.ha ⁻¹)	361	380	89	494	430	302	65	520	465	399	546	332	544	544	191	244	431	765	513	74	649
N _S	223	236	54	304	262	186	40	321	277	243	345	205	343	336	118	151	269	477	324	44	405
N _B	65	71	15	90	75	54	11	96	76	70	112	62	110	99	36	45	84	147	104	13	125
N _L	21	20	6	30	29	18	4	29	37	26	22	18	23	32	10	13	21	38	21	6	32
N _R	52	52	13	71	65	44	10	73	75	60	66	46	68	78	26	34	57	102	64	11	87
3 Phosphorus (kg.ha ⁻¹)	50	53	12	68	58	41	9	72	62	54	78	46	77	75	26	34	60	107	73	10	91
P _S	34	36	8	46	40	28	6	49	42	37	52	31	52	51	18	23	41	72	49	7	61
P _B	12	13	3	17	14	10	2	18	14	13	21	12	21	19	7	9	16	28	20	2	23
P _L	2	2	0	2	2	1	0	2	3	2	2	2	2	3	1	1	2	3	2	0	3
P _R	2	2	1	3	2	2	0	3	3	2	3	2	3	3	1	1	2	4	2	0	3
4 Potassium (kg.ha ⁻¹)	246	260	60	337	292	206	44	354	314	271	375	226	373	371	130	166	295	523	352	50	444
K _S	155	165	38	212	183	130	28	224	194	170	241	143	240	234	83	105	188	333	226	31	283
K _B	49	54	12	68	56	41	9	73	57	53	85	47	83	75	27	34	63	111	79	10	94
K _L	15	14	4	21	20	13	3	20	25	18	15	13	16	22	7	9	15	26	15	4	22
K _R	27	27	7	36	33	22	5	37	38	30	34	24	34	40	13	17	29	52	32	6	44
5 Calcium (kg.ha ⁻¹)	525	553	129	717	624	439	94	755	671	578	795	482	792	790	277	354	627	1,113	748	107	944
Ca _S	319	338	77	436	375	266	57	461	398	348	495	294	492	481	170	216	386	685	465	64	581
Ca _B	99	108	23	136	113	82	17	146	115	106	170	94	167	149	54	68	127	222	157	19	188
Ca _L	20	19	6	28	27	17	4	27	35	25	21	17	21	30	10	13	20	36	20	5	30
Ca _R	87	87	22	118	108	73	16	121	125	99	110	77	112	130	44	57	95	170	106	19	145
6 Magnesium (kg.ha ⁻¹)	118	124	29	162	141	99	21	170	152	130	178	108	177	178	62	79	141	249	167	24	212
Mg _S	71	76	17	97	84	60	13	103	89	78	111	66	110	108	38	48	86	153	104	14	130
Mg _B	25	27	6	34	28	20	4	36	29	26	42	23	42	37	13	17	32	56	39	5	47
Mg _L	12	12	3	17	16	10	2	16	21	15	12	10	13	18	6	8	12	22	12	3	18
Mg _R	10	10	3	13	12	8	2	14	14	11	13	9	13	15	5	6	11	19	12	2	16

Table 3-3 Total biomass nutrients of pine and succession trees in a series of pine plantations

Nutrient	Age (year)																				
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1 Carbon (Mg.ha ⁻¹)	62	46	70	56	85	85	71	114	86	71	93	86	140	104	81	57	102	105	118	113	107
C _S	41	30	47	37	56	57	48	76	56	46	61	57	93	69	54	38	67	69	78	75	71
C _B	9	8	9	10	12	11	8	16	12	10	15	12	21	15	11	8	15	18	18	15	17
C _L	1	1	2	1	2	2	2	2	2	2	2	2	3	2	2	1	2	2	2	3	2
C _R	10	7	13	9	15	16	14	20	16	12	15	15	23	18	14	10	17	16	19	21	17
2 Nitrogen (kg.ha ⁻¹)	500	435	378	551	646	574	370	835	673	562	747	595	965	803	485	408	722	933	844	564	875
N _S	261	251	133	319	321	260	123	408	334	288	400	277	459	407	199	196	349	524	415	179	467
N _B	85	79	56	97	104	90	51	139	102	91	138	96	172	135	80	67	128	173	153	89	158
N _L	39	28	43	37	56	53	43	69	63	47	48	52	76	65	48	35	58	59	63	68	61
N _R	115	78	146	98	165	171	152	219	173	136	162	170	258	197	157	111	188	177	213	228	188
3 Phosphorus (kg.ha ⁻¹)	66	59	46	74	83	72	44	108	86	73	100	76	126	105	61	53	95	127	111	68	117
P _S	41	39	24	49	51	43	23	66	53	46	63	45	75	65	34	32	57	81	67	34	74
P _B	16	15	11	19	20	18	10	27	20	18	26	19	34	26	16	13	25	33	30	18	30
P _L	4	2	5	3	6	6	5	7	6	5	5	5	8	6	5	4	6	6	7	8	6
P _R	4	3	6	4	6	6	6	8	7	5	6	6	10	7	6	4	7	7	8	9	7
4 Potassium (kg.ha ⁻¹)	346	299	270	377	448	401	263	582	463	388	519	414	680	558	346	285	508	647	594	412	609
K _S	190	178	109	226	236	197	103	302	245	210	290	208	344	298	155	146	260	375	308	152	339
K _B	74	63	64	77	94	87	60	127	92	80	118	90	162	121	85	62	120	144	141	108	137
K _L	24	18	23	24	34	30	22	40	39	29	28	30	43	39	26	20	33	37	36	35	37
K _R	59	40	74	50	84	87	77	112	88	69	82	87	131	100	80	56	96	90	108	116	96
5 Calcium (kg.ha ⁻¹)	700	622	496	789	897	783	480	1154	934	785	1050	814	1329	1118	653	562	999	1328	1169	734	1232
Ca _S	342	347	125	445	411	311	107	513	432	375	528	337	562	524	218	243	434	712	519	144	618
Ca _B	142	124	114	152	179	161	107	241	174	154	227	169	304	230	155	117	225	280	266	191	264
Ca _L	24	21	14	30	34	26	13	37	41	30	27	25	34	38	19	18	29	41	30	20	37
Ca _R	192	130	242	162	273	285	252	364	287	226	269	282	429	326	261	184	311	294	353	379	313
6 Magnesium (kg.ha ⁻¹)	142	134	80	172	179	147	75	225	189	159	214	155	251	223	114	108	192	279	225	110	251
Mg _S	79	79	33	101	96	74	29	120	100	87	122	80	133	122	54	57	102	162	122	41	142
Mg _B	28	28	13	35	33	26	11	43	33	30	47	29	52	43	21	21	39	60	47	18	53
Mg _L	14	12	7	17	19	13	6	20	23	17	15	13	18	21	9	9	15	23	16	9	21
Mg _R	22	15	28	18	31	32	29	41	33	26	31	32	49	37	30	21	35	33	40	43	36

Table 3-4 Carbon storages of tree species in a series of pine plantations

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>14 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	19.9404	3.4623	0.6952	5.7507	29.8486
2	<i>Glochidion sphaerogynum</i>	6.3881	1.7463	0.2359	1.5772	9.9475
3	<i>Schima wallichii</i>	3.5173	1.0532	0.0882	0.7268	5.3854
4	<i>Albizia chinensis</i>	2.2881	0.6844	0.0561	0.4707	3.4992
5	<i>Callicarpa arborea</i>	1.1090	0.3259	0.0294	0.2362	1.7005
6	<i>Litsea sp.</i>	1.0014	0.2776	0.0339	0.2388	1.5517
7	<i>Castanopsis diversifolia</i>	0.9431	0.2858	0.0217	0.1887	1.4393
8	<i>Ficus ribes</i>	0.7751	0.2273	0.0203	0.1651	1.1879
9	<i>Eriolaena candollei</i>	0.6872	0.2004	0.0188	0.1486	1.0550
10	<i>Myrica esculenta</i>	0.5932	0.1702	0.0177	0.1331	0.9142
11	<i>Syzygium cumini</i>	0.5619	0.1706	0.0130	0.1123	0.8577
12	<i>Engelhardtia spicata</i>	0.5350	0.1480	0.0190	0.1294	0.8313
13	<i>Archidendron clypearia</i>	0.5365	0.1644	0.0116	0.1047	0.8173
14	<i>Ficus callosa</i>	0.4945	0.1330	0.0189	0.1250	0.7715
15	<i>Albizia odoratissima</i>	0.4127	0.1244	0.0096	0.0832	0.6300
16	<i>Phyllanthus emblica</i>	0.2240	0.0549	0.0129	0.0680	0.3598
17	<i>Phoebe lanceolata</i>	0.2038	0.0587	0.0057	0.0449	0.3131
18	<i>Grewia laevigata</i>	0.1973	0.0568	0.0056	0.0436	0.3033
19	<i>Litsea monopetala</i>	0.0771	0.0202	0.0033	0.0205	0.1212
20	<i>Colona flagrocarpa</i>	0.0609	0.0156	0.0029	0.0169	0.0963
21	<i>Memecylon celastrinum</i>	0.0601	0.0154	0.0028	0.0167	0.0950
22	<i>Ternstroemia gymnanthera</i>	0.0512	0.0128	0.0027	0.0150	0.0817
23	<i>Wendlandia tinctoria</i>	0.0449	0.0113	0.0023	0.0130	0.0715
24	<i>Eurya nitida</i>	0.0408	0.0106	0.0018	0.0110	0.0642
25	<i>Glochidion hirsutum</i>	0.0380	0.0092	0.0023	0.0118	0.0613
26	<i>Horsfieldia tomentosa</i>	0.0274	0.0067	0.0016	0.0084	0.0440
27	<i>Dolichandrone serrulata</i>	0.0259	0.0062	0.0017	0.0082	0.0420
28	<i>Aporosa villosa</i>	0.0258	0.0063	0.0015	0.0079	0.0414
29	<i>Syzygium albiflorum</i>	0.0173	0.0039	0.0014	0.0062	0.0288
30	<i>Flacourtia indica</i>	0.0098	0.0023	0.0006	0.0031	0.0159
31	<i>Congea tomentosa</i>	0.0087	0.0021	0.0006	0.0028	0.0142
32	<i>Flemingia lineata</i>	0.0041	0.0009	0.0003	0.0015	0.0068
33	<i>Stereospermum neuranthum</i>	0.0023	0.0005	0.0002	0.0009	0.0038
34	<i>Glochidion acuminatum</i>	0.0008	0.0001	0.0001	0.0004	0.0014
35	<i>Melastoma sanguineum</i>	0.0003	0.0001	0.0001	0.0002	0.0006
36	<i>Micromelum minutum</i>	0.0002	0.0000	0.0000	0.0001	0.0004
	Total	41	9	1	10	62

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	15 year-old pine plantation					
1	<i>Pinus kesiya</i>	7.9355	1.3064	0.2770	2.3310	11.8499
2	<i>Schima wallichii</i>	4.0686	1.1912	0.1137	0.8809	6.2544
3	<i>Castanopsis acuminatissima</i>	3.4558	1.0893	0.0668	0.6395	5.2515
4	<i>Engelhardtia spicata</i>	2.0164	0.5913	0.0540	0.4316	3.0932
5	<i>Beilschmiedia gammieana</i>	2.0279	0.6435	0.0398	0.3739	3.0851
6	<i>Dillenia aurea</i>	1.5634	0.4967	0.0306	0.2878	2.3785
7	<i>Ternstroemia gymnanthera</i>	1.4996	0.4256	0.0458	0.3415	2.3125
8	<i>Helicia terminalis</i>	1.0991	0.3207	0.0301	0.2376	1.6875
9	<i>Phoebe paniculata</i>	0.9118	0.2458	0.0360	0.2317	1.4254
10	<i>Trichilla connaroides</i>	0.8652	0.2657	0.0191	0.1693	1.3193
11	<i>Stereospermum neuranthum</i>	0.8024	0.2432	0.0184	0.1604	1.2244
12	<i>Elaeocarpus sphaericus</i>	0.5247	0.1571	0.0132	0.1083	0.8033
13	<i>Helicia nilagirica</i>	0.4354	0.1203	0.0148	0.1043	0.6748
14	<i>Dalbergia assamica</i>	0.4316	0.1305	0.0099	0.0866	0.6586
15	<i>Castanopsis diversifolia</i>	0.3395	0.1005	0.0088	0.0714	0.5202
16	<i>Glochidion sphaerogynum</i>	0.3014	0.0828	0.0116	0.0747	0.4706
17	<i>Lindera metcalfiana</i>	0.2912	0.0716	0.0172	0.0887	0.4687
18	<i>Memecylon celastrinum</i>	0.2695	0.0661	0.0165	0.0830	0.4351
19	<i>Pyrenaria diospyricarpa</i>	0.2311	0.0534	0.0175	0.0792	0.3812
20	<i>Eurya nitida</i>	0.2141	0.0552	0.0102	0.0592	0.3386
21	<i>Wendlandia tinctoria</i>	0.1921	0.0503	0.0084	0.0514	0.3021
22	<i>Magnolia henryi</i>	0.1384	0.0366	0.0058	0.0363	0.2171
23	<i>Diospyros glandulosa</i>	0.0947	0.0231	0.0059	0.0294	0.1531
24	<i>Eriolaena candollei</i>	0.0774	0.0210	0.0028	0.0192	0.1204
25	<i>Symplocos henschelii</i>	0.0738	0.0194	0.0032	0.0197	0.1160
26	<i>Glochidion acuminatum</i>	0.0491	0.0102	0.0065	0.0213	0.0871
27	<i>Vitex canescens</i>	0.0556	0.0148	0.0022	0.0144	0.0869
28	<i>Phoebe cathia</i>	0.0418	0.0105	0.0022	0.0122	0.0667
29	<i>Saurauia roxburghii</i>	0.0377	0.0091	0.0024	0.0120	0.0612
30	<i>Archidendron clypearia</i>	0.0276	0.0063	0.0023	0.0098	0.0460
31	<i>Albizia odoratissima</i>	0.0181	0.0043	0.0012	0.0060	0.0296
32	<i>Quercus semiserrata</i>	0.0166	0.0040	0.0010	0.0052	0.0269
33	<i>Turpinia cochinchinensis</i>	0.0148	0.0036	0.0009	0.0045	0.0238
34	<i>Melastoma sanguineum</i>	0.0082	0.0015	0.0015	0.0042	0.0153
35	<i>Rhus javanica</i>	0.0063	0.0014	0.0005	0.0023	0.0105
36	<i>Phyllanthus emblica</i>	0.0060	0.0013	0.0005	0.0021	0.0099
37	<i>Blumea balsamifera</i>	0.0019	0.0004	0.0003	0.0009	0.0035
38	<i>Micromelum minutum</i>	0.0013	0.0003	0.0002	0.0006	0.0024
39	<i>Mussaenda sanderiana</i>	0.0010	0.0002	0.0001	0.0004	0.0018
40	<i>Lepisanthes rubiginosa</i>	0.0009	0.0002	0.0001	0.0004	0.0016
41	<i>Fissistigma minuticalyx</i>	0.0003	0.0001	0.0001	0.0002	0.0006
42	<i>Ampelocissus martinii</i>	0.0002	0.0000	0.0000	0.0001	0.0004
43	<i>Litsea monopetala</i>	0.0002	0.0000	0.0000	0.0001	0.0004
44	<i>Eurya acuminata</i>	0.0002	0.0000	0.0000	0.0001	0.0003
45	<i>Cinnamomum iners</i>	0.0001	0.0000	0.0000	0.0001	0.0003
46	<i>Euodia roxburghiana</i>	0.0001	0.0000	0.0000	0.0001	0.0003
47	<i>Milletia pachycarpa</i>	0.0001	0.0000	0.0000	0.0001	0.0003
48	<i>Litsea cubeba</i>	0.0001	0.0000	0.0000	0.0001	0.0002
49	<i>Arytera littoralis</i>	0.0001	0.0000	0.0000	0.0001	0.0002
50	<i>Myrica esculenta</i>	0.0001	0.0000	0.0000	0.0000	0.0002
51	<i>Styrax benzoides</i>	0.0001	0.0000	0.0000	0.0000	0.0002
52	<i>Litsea glutinosa</i>	0.0001	0.0000	0.0000	0.0000	0.0002
53	<i>Viburnum sambucinum</i>	0.0000	0.0000	0.0000	0.0000	0.0001
54	<i>Buddleja asiatica</i>	0.0000	0.0000	0.0000	0.0000	0.0001
	Total	30	8	1	7	46

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	16 year-old pine plantation					
1	<i>Pinus kesiya</i>	41.6235	7.1676	1.4516	12.0560	62.2987
2	<i>Schima wallichii</i>	1.5760	0.4473	0.0484	0.3593	2.4310
3	<i>Canarium subulatum</i>	0.5849	0.1696	0.0162	0.1276	0.8984
4	<i>Wendlandia tinctoria</i>	0.5547	0.1489	0.0220	0.1417	0.8673
5	<i>Spatholobus parviflorus</i>	0.5064	0.1481	0.0134	0.1084	0.7764
6	<i>Engelhardtia spicata</i>	0.4561	0.1311	0.0133	0.1014	0.7019
7	<i>Phoebe paniculata</i>	0.4356	0.1197	0.0153	0.1057	0.6762
8	<i>Vitex peduncularis</i>	0.3395	0.0938	0.0117	0.0816	0.5265
9	<i>Glochidion sphaerogynum</i>	0.1041	0.0259	0.0056	0.0307	0.1663
10	<i>Ampelocissus martinii</i>	0.1010	0.0261	0.0046	0.0276	0.1593
11	<i>Musa acuminata</i>	0.0980	0.0235	0.0063	0.0312	0.1591
12	<i>Eriolaena candollei</i>	0.1021	0.0282	0.0035	0.0245	0.1583
13	<i>Phoebe cathia</i>	0.0760	0.0204	0.0030	0.0193	0.1188
14	<i>Lindera metcalifiana</i>	0.0453	0.0110	0.0032	0.0145	0.0741
15	<i>Glochidion acuminatum</i>	0.0334	0.0062	0.0063	0.0174	0.0633
16	<i>Glochidion hirsutum</i>	0.0348	0.0084	0.0022	0.0110	0.0564
17	<i>Melastoma sanguineum</i>	0.0082	0.0016	0.0014	0.0041	0.0154
18	<i>Saurauia roxburghii</i>	0.0052	0.0011	0.0006	0.0022	0.0091
19	<i>Eurya nitida</i>	0.0050	0.0010	0.0007	0.0022	0.0089
20	<i>Litsea cubeba</i>	0.0045	0.0009	0.0007	0.0022	0.0083
21	<i>Litsea monopetala</i>	0.0041	0.0009	0.0005	0.0017	0.0072
22	<i>Archidendron clypearia</i>	0.0023	0.0005	0.0003	0.0010	0.0041
23	<i>Trichilla connaroides</i>	0.0020	0.0004	0.0003	0.0010	0.0037
24	<i>Rauvolfia cambodiana</i>	0.0016	0.0003	0.0003	0.0009	0.0031
25	<i>Blumea balsamifera</i>	0.0012	0.0002	0.0003	0.0007	0.0023
26	<i>Ficus callosa</i>	0.0013	0.0003	0.0001	0.0005	0.0023
27	<i>Pyrenaria diospyricarpa</i>	0.0011	0.0002	0.0002	0.0006	0.0021
28	<i>Colona flagrocarpa</i>	0.0007	0.0001	0.0002	0.0004	0.0014
29	<i>Viburnum sambucinum</i>	0.0003	0.0000	0.0001	0.0001	0.0005
30	<i>Mussaenda sanderiana</i>	0.0002	0.0000	0.0000	0.0001	0.0004
31	<i>Diospyros glandulosa</i>	0.0002	0.0000	0.0000	0.0001	0.0003
32	<i>Artocarpus lacucha</i>	0.0002	0.0000	0.0000	0.0001	0.0003
33	<i>Micromelum minutum</i>	0.0001	0.0000	0.0000	0.0001	0.0002
	Total	47	9	2	13	70

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	17 year-old pine plantation					
1	<i>Pinus kesiya</i>	8.1461	1.2770	0.2847	2.4318	12.1397
2	<i>Schima wallichii</i>	3.8640	1.0951	0.1220	0.8882	5.9693
3	<i>Myrica esculenta</i>	3.2182	0.9369	0.0903	0.7014	4.9468
4	<i>Engelhardtia spicata</i>	2.7055	0.7883	0.0826	0.6017	4.1782
5	<i>Castanopsis diversifolia</i>	2.5661	0.7465	0.0729	0.5611	3.9467
6	<i>Quercus semiserrata</i>	2.5236	0.8526	0.0360	0.4069	3.8191
7	<i>Helicia terminalis</i>	2.0853	0.5567	0.0847	0.5385	3.2652
8	<i>Castanopsis acuminatissima</i>	1.6417	0.5331	0.0286	0.2880	2.4914
9	<i>Phoebe cathia</i>	1.4721	0.4790	0.0253	0.2566	2.2329
10	<i>Wendlandia tinctoria</i>	1.3268	0.3533	0.0554	0.3458	2.0812
11	<i>Syzygium albiflorum</i>	1.1720	0.3427	0.0313	0.2513	1.7973
12	<i>Elaeocarpus sphaericus</i>	1.0082	0.2996	0.0257	0.2105	1.5440
13	<i>Phyllanthus emblica</i>	0.8329	0.2005	0.0525	0.2631	1.3490
14	<i>Glochidion sphaerogynum</i>	0.4842	0.1193	0.0280	0.1466	0.7781
15	<i>Beilschmiedia gammieana</i>	0.4484	0.1239	0.0157	0.1081	0.6961
16	<i>Diospyros glandulosa</i>	0.4024	0.1016	0.0213	0.1166	0.6418
17	<i>Artocarpus lacucha</i>	0.4136	0.1247	0.0097	0.0835	0.6314
18	<i>Albizia chinensis</i>	0.3222	0.0956	0.0080	0.0670	0.4929
19	<i>Heterophragma sulfureum</i>	0.2328	0.0625	0.0092	0.0593	0.3639
20	<i>Trichilla connaroides</i>	0.1668	0.0434	0.0078	0.0457	0.2637
21	<i>Lithocarpus sp.</i>	0.1593	0.0415	0.0069	0.0428	0.2505
22	<i>Eurya nitida</i>	0.1425	0.0357	0.0076	0.0416	0.2273
23	<i>Albizia odoratissima</i>	0.1410	0.0392	0.0049	0.0336	0.2187
24	<i>Eriolaena candollei</i>	0.1206	0.0314	0.0054	0.0326	0.1899
25	<i>Dillenia aurea</i>	0.1192	0.0330	0.0041	0.0286	0.1850
26	<i>Phoebe paniculata</i>	0.1039	0.0271	0.0046	0.0280	0.1637
27	<i>Archidendron clypearia</i>	0.0942	0.0239	0.0048	0.0270	0.1499
28	<i>Garuga pinnata</i>	0.0944	0.0252	0.0037	0.0242	0.1475
29	<i>Temstroemia gymnanthera</i>	0.0889	0.0235	0.0037	0.0232	0.1394
30	<i>Erythrina subumbrans</i>	0.0768	0.0208	0.0028	0.0191	0.1195
31	<i>Litsea glutinosa</i>	0.0638	0.0153	0.0041	0.0203	0.1035
32	<i>Helicia nilagirica</i>	0.0658	0.0177	0.0025	0.0167	0.1026
33	<i>Glochidion acuminatum</i>	0.0471	0.0096	0.0069	0.0214	0.0849
34	<i>Symplocos sp.</i>	0.0438	0.0108	0.0025	0.0132	0.0702
35	<i>Memecylon celastrinum</i>	0.0379	0.0086	0.0031	0.0134	0.0630
36	<i>Pyrenaria diospyricarpa</i>	0.0369	0.0081	0.0036	0.0142	0.0628
37	<i>Kydia calycina</i>	0.0389	0.0101	0.0017	0.0105	0.0613
38	<i>Glochidion hirsutum</i>	0.0334	0.0078	0.0024	0.0112	0.0547
39	<i>Melastoma sanguineum</i>	0.0291	0.0056	0.0048	0.0142	0.0537
40	<i>Arytera littoralis</i>	0.0257	0.0057	0.0025	0.0097	0.0436
41	<i>Rhus succedanea</i>	0.0269	0.0065	0.0016	0.0083	0.0432
42	<i>Cinnamomum iners</i>	0.0237	0.0057	0.0016	0.0076	0.0386
43	<i>Docynia indica</i>	0.0203	0.0047	0.0014	0.0068	0.0333
44	<i>Ampelocissus martinii</i>	0.0207	0.0050	0.0012	0.0064	0.0333
45	<i>Sapindus rarak</i>	0.0109	0.0025	0.0008	0.0037	0.0179
46	<i>Blumea balsamifera</i>	0.0095	0.0018	0.0016	0.0047	0.0176
47	<i>Carallia brachiata</i>	0.0095	0.0023	0.0006	0.0031	0.0154
48	<i>Xanthophyllum virens</i>	0.0073	0.0017	0.0005	0.0024	0.0119
49	<i>Lindera metcalfiana</i>	0.0054	0.0011	0.0006	0.0022	0.0093
50	<i>Litsea sp.</i>	0.0032	0.0006	0.0004	0.0014	0.0057
51	<i>Alstonia scholaris</i>	0.0031	0.0006	0.0004	0.0014	0.0055
52	<i>Symplocos henschelii</i>	0.0030	0.0006	0.0003	0.0012	0.0051
53	<i>Ilex umbellulata</i>	0.0022	0.0005	0.0002	0.0009	0.0038
54	<i>Catunaregam tomentosa</i>	0.0015	0.0003	0.0002	0.0007	0.0027
55	<i>Anneslea fragrans</i>	0.0010	0.0002	0.0001	0.0004	0.0018
56	<i>Saurauia roxburghii</i>	0.0007	0.0001	0.0001	0.0003	0.0012
57	<i>Spondias bipinnata</i>	0.0004	0.0001	0.0001	0.0002	0.0008
58	<i>Rhus javanica</i>	0.0004	0.0001	0.0001	0.0002	0.0008
59	<i>Viburnum sambucinum</i>	0.0003	0.0001	0.0001	0.0002	0.0006
60	<i>Euodia roxburghiana</i>	0.0003	0.0000	0.0001	0.0002	0.0005
61	<i>Quercus brandisiana</i>	0.0001	0.0000	0.0000	0.0000	0.0002
	Total	37	10	1	9	56

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	18 year-old pine plantation					
1	<i>Pinus kesiya</i>	31.0291	5.2297	1.0826	9.0374	46.3788
2	<i>Castanopsis purpurea</i>	3.9843	1.1165	0.1334	0.9390	6.1733
3	<i>Schima wallichii</i>	1.9511	0.5664	0.0570	0.4304	3.0049
4	<i>Eriolaena candollei</i>	1.8830	0.5501	0.0527	0.4088	2.8946
5	<i>Castanopsis acuminatissima</i>	1.7673	0.5064	0.0524	0.3961	2.7223
6	<i>Quercus vestita</i>	1.6913	0.4577	0.0647	0.4250	2.6388
7	<i>Castanopsis diversifolia</i>	1.6234	0.4545	0.0546	0.3833	2.5159
8	<i>Wendlandia tinctoria</i>	1.4767	0.3672	0.0813	0.4383	2.3634
9	<i>Glochidion sphaerogynum</i>	1.4352	0.3866	0.0566	0.3649	2.2433
10	<i>Dalbergia assamica</i>	1.1136	0.2927	0.0526	0.3032	1.7622
11	<i>Acacia megaladena</i>	1.0191	0.3252	0.0185	0.1837	1.5466
12	<i>Ternstroemia gymnanthera</i>	0.5503	0.1459	0.0226	0.1433	0.8621
13	<i>Archidendron clypearia</i>	0.5191	0.1433	0.0179	0.1249	0.8052
14	<i>Albizia odoratissima</i>	0.4755	0.1429	0.0115	0.0970	0.7269
15	<i>Phoebe lanceolata</i>	0.4503	0.1254	0.0150	0.1066	0.6972
16	<i>Ficus ribes</i>	0.4357	0.1265	0.0120	0.0947	0.6689
17	<i>Castanopsis tribuloides</i>	0.4272	0.1237	0.0118	0.0932	0.6559
18	<i>Helicia terminalis</i>	0.3506	0.0963	0.0124	0.0852	0.5444
19	<i>Lithocarpus sootepensis</i>	0.3419	0.0916	0.0133	0.0871	0.5340
20	<i>Erythrina subumbrans</i>	0.2638	0.0746	0.0081	0.0604	0.4070
21	<i>Syzygium cumini</i>	0.2619	0.0720	0.0091	0.0634	0.4065
22	<i>Eurya nitida</i>	0.2450	0.0634	0.0111	0.0668	0.3864
23	<i>Syzygium albiflorum</i>	0.2349	0.0596	0.0120	0.0673	0.3739
24	<i>Phyllanthus emblica</i>	0.2236	0.0544	0.0134	0.0691	0.3606
25	<i>Diospyros glandulosa</i>	0.2206	0.0578	0.0095	0.0588	0.3468
26	<i>Stereospermum neuranthum</i>	0.1817	0.0492	0.0068	0.0454	0.2831
27	<i>Protium serratum</i>	0.1725	0.0472	0.0061	0.0421	0.2679
28	<i>Aporosa villosa</i>	0.1651	0.0405	0.0096	0.0504	0.2656
29	<i>Elaeocarpus sphaericus</i>	0.1485	0.0420	0.0046	0.0340	0.2290
30	<i>Engelhardtia spicata</i>	0.1479	0.0418	0.0045	0.0339	0.2281
31	<i>Gluta obovata</i>	0.1279	0.0325	0.0063	0.0361	0.2028
32	<i>Magnolia henryi</i>	0.1064	0.0284	0.0042	0.0272	0.1662
33	<i>Dillenia aurea</i>	0.1056	0.0283	0.0043	0.0271	0.1652
34	<i>Pterospermum acerifolium</i>	0.1034	0.0286	0.0035	0.0248	0.1602
35	<i>Symplocos sp.</i>	0.0975	0.0258	0.0040	0.0254	0.1527
36	<i>Anneslea fragrans</i>	0.0715	0.0193	0.0027	0.0179	0.1114
37	<i>Dolichandrone serrulata</i>	0.0583	0.0146	0.0030	0.0169	0.0929
38	<i>Docynia indica</i>	0.0587	0.0157	0.0023	0.0151	0.0918
39	<i>Callicarpa arborea</i>	0.0364	0.0092	0.0019	0.0105	0.0580
40	<i>Gmelina arborea</i>	0.0332	0.0085	0.0015	0.0092	0.0525
41	<i>Colona flagrocarpa</i>	0.0222	0.0056	0.0011	0.0064	0.0353
42	<i>Helicia nilagirica</i>	0.0199	0.0050	0.0011	0.0059	0.0318
43	<i>Vaccinium sprengelii</i>	0.0151	0.0036	0.0010	0.0049	0.0246
44	<i>Symplocos racemosa</i>	0.0135	0.0032	0.0010	0.0045	0.0222
45	<i>Schoepfia fragrans</i>	0.0133	0.0032	0.0008	0.0041	0.0214
46	<i>Styrax benzoides</i>	0.0047	0.0011	0.0004	0.0016	0.0078
	Total	56	12	2	15	85

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>19 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	39.1700	6.3017	1.3681	11.5827	58.4225
2	<i>Castanopsis diversifolia</i>	3.5459	0.9954	0.1165	0.8305	5.4883
3	<i>Eriolaena candollei</i>	2.3986	0.6828	0.0751	0.5482	3.7048
4	<i>Castanopsis purpurea</i>	2.4087	0.7523	0.0534	0.4646	3.6790
5	<i>Albizia chinensis</i>	1.5794	0.4503	0.0475	0.3570	2.4342
6	<i>Wendlandia tinctoria</i>	1.3561	0.3565	0.0610	0.3644	2.1381
7	<i>Ternstroemia gymnanthera</i>	0.8875	0.2666	0.0217	0.1816	1.3574
8	<i>Gluta obovata</i>	0.6468	0.2006	0.0133	0.1234	0.9841
9	<i>Ficus ribes</i>	0.6227	0.1708	0.0221	0.1517	0.9673
10	<i>Schima wallichii</i>	0.5968	0.1724	0.0167	0.1309	0.9169
11	<i>Markhamia stipulata</i>	0.4649	0.1330	0.0137	0.1041	0.7157
12	<i>Syzygium cumini</i>	0.4299	0.1225	0.0129	0.0971	0.6623
13	<i>Phyllanthus emblica</i>	0.3039	0.0763	0.0159	0.0883	0.4844
14	<i>Dolichandrone serrulata</i>	0.2770	0.0749	0.0105	0.0695	0.4320
15	<i>Castanopsis acuminatissima</i>	0.2654	0.0778	0.0070	0.0565	0.4067
16	<i>Protium serratum</i>	0.2547	0.0691	0.0094	0.0633	0.3965
17	<i>Acacia megaladena</i>	0.2228	0.0608	0.0080	0.0548	0.3464
18	<i>Phoebe lanceolata</i>	0.2037	0.0579	0.0062	0.0463	0.3142
19	<i>Glochidion sphaerogynum</i>	0.1945	0.0491	0.0098	0.0557	0.3091
20	<i>Litsea monopetala</i>	0.1601	0.0454	0.0048	0.0363	0.2466
21	<i>Phoebe paniculata</i>	0.1264	0.0342	0.0048	0.0317	0.1971
22	<i>Elaeocarpus sphaericus</i>	0.1076	0.0298	0.0036	0.0256	0.1667
23	<i>Adinandra integerrima</i>	0.0870	0.0216	0.0048	0.0259	0.1392
24	<i>Albizia odoratissima</i>	0.0627	0.0168	0.0024	0.0160	0.0979
25	<i>Horsfieldia tomentosa</i>	0.0401	0.0096	0.0025	0.0126	0.0649
26	<i>Dalbergia velutina</i>	0.0375	0.0097	0.0017	0.0102	0.0591
27	<i>Xanthophyllum virens</i>	0.0366	0.0092	0.0019	0.0105	0.0582
28	<i>Stereospermum neuranthum</i>	0.0300	0.0077	0.0014	0.0084	0.0475
29	<i>Holarrhena pubescens</i>	0.0258	0.0064	0.0014	0.0077	0.0414
30	<i>Dillenia indica</i>	0.0254	0.0064	0.0014	0.0075	0.0406
31	<i>Pterospermum acerifolium</i>	0.0237	0.0060	0.0012	0.0068	0.0376
32	<i>Aporosa wallichii</i>	0.0196	0.0048	0.0011	0.0060	0.0315
33	<i>Helicia nilagirica</i>	0.0167	0.0041	0.0009	0.0050	0.0268
34	<i>Engelhardtia spicata</i>	0.0089	0.0020	0.0007	0.0031	0.0148
35	<i>Vaccinium sprengelii</i>	0.0055	0.0013	0.0004	0.0019	0.0090
36	<i>Syzygium albiflorum</i>	0.0038	0.0008	0.0003	0.0014	0.0063
37	<i>Cinnamomum iners</i>	0.0008	0.0002	0.0001	0.0004	0.0015
38	<i>Arytera littoralis</i>	0.0006	0.0001	0.0001	0.0003	0.0012
	Total	57	11	2	16	85

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>20 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	43.9272	7.1187	1.5340	12.9558	65.5357
2	<i>Bauhinia variegata</i>	1.5117	0.4260	0.0490	0.3517	2.3385
3	<i>Eriolaena candollei</i>	1.3036	0.3707	0.0399	0.2966	2.0108
4	<i>Syzygium albiflorum</i>	0.3160	0.0892	0.0099	0.0728	0.4879
5	<i>Castanopsis diversifolia</i>	0.2153	0.0582	0.0082	0.0541	0.3359
6	<i>Glochidion sphaerogynum</i>	0.2088	0.0603	0.0058	0.0458	0.3207
7	<i>Phyllanthus emblica</i>	0.1413	0.0372	0.0059	0.0372	0.2216
8	<i>Dolichandrone serrulata</i>	0.0126	0.0030	0.0008	0.0039	0.0203
9	<i>Syzygium cumini</i>	0.0060	0.0013	0.0006	0.0023	0.0102
10	<i>Arytera littoralis</i>	0.0050	0.0010	0.0008	0.0024	0.0091
11	<i>Aporosa villosa</i>	0.0038	0.0008	0.0003	0.0014	0.0063
12	<i>Wendlandia tinctoria</i>	0.0033	0.0007	0.0003	0.0012	0.0055
13	<i>Dillenia indica</i>	0.0029	0.0006	0.0003	0.0011	0.0048
14	<i>Litsea monopetala</i>	0.0022	0.0004	0.0003	0.0009	0.0038
15	<i>Phoebe paniculata</i>	0.0006	0.0001	0.0001	0.0003	0.0011
16	<i>Symplocos sp.</i>	0.0002	0.0000	0.0000	0.0001	0.0004
17	<i>Rhus javanica</i>	0.0002	0.0000	0.0000	0.0001	0.0003
	Total	48	8	2	14	71

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>21 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	45.3947	7.5461	1.5844	13.2911	67.8163
2	<i>Schima wallichii</i>	8.2821	2.4555	0.2227	1.7589	12.7192
3	<i>Castanopsis acuminatissima</i>	3.5979	1.0567	0.0952	0.7669	5.5166
4	<i>Anneslea fragrans</i>	3.5139	1.0462	0.0907	0.7349	5.3857
5	<i>Syzygium albiflorum</i>	2.6066	0.8273	0.0585	0.4946	3.9870
6	<i>Castanopsis diversifolia</i>	2.3146	0.7290	0.0461	0.4315	3.5212
7	<i>Lithocarpus elegans</i>	1.8795	0.5587	0.0488	0.3945	2.8815
8	<i>Wendlandia tinctoria</i>	1.4306	0.3714	0.0677	0.3934	2.2631
9	<i>Elaeocarpus sphaericus</i>	1.3496	0.3801	0.0450	0.3163	2.0910
10	<i>Myrica esculenta</i>	0.7787	0.2305	0.0198	0.1632	1.1923
11	<i>Buchanania lanzan</i>	0.7470	0.2134	0.0231	0.1696	1.1532
12	<i>Syzygium cumini</i>	0.5372	0.1492	0.0185	0.1284	0.8333
13	<i>Lithocarpus garrettianus</i>	0.5150	0.1356	0.0218	0.1360	0.8084
14	<i>Glochidion sphaerogynum</i>	0.4705	0.1218	0.0217	0.1289	0.7429
15	<i>Aporosa villosa</i>	0.3219	0.0810	0.0175	0.0942	0.5147
16	<i>Magnolia henryi</i>	0.3180	0.0910	0.0093	0.0712	0.4896
17	<i>Xanthophyllum virens</i>	0.2347	0.0683	0.0064	0.0508	0.3602
18	<i>Engelhardtia spicata</i>	0.1933	0.0486	0.0101	0.0560	0.3080
19	<i>Phoebe paniculata</i>	0.1684	0.0429	0.0082	0.0473	0.2668
20	<i>Albizia chinensis</i>	0.1597	0.0447	0.0053	0.0376	0.2472
21	<i>Symplocos sp.</i>	0.1287	0.0335	0.0057	0.0347	0.2026
22	<i>Engelhardtia serrata</i>	0.1093	0.0286	0.0047	0.0292	0.1717
23	<i>Dalbergia assamica</i>	0.1101	0.0303	0.0039	0.0268	0.1711
24	<i>Tristania rufescens</i>	0.0776	0.0183	0.0053	0.0255	0.1267
25	<i>Albizia odoratissima</i>	0.0762	0.0205	0.0029	0.0192	0.1189
26	<i>Phyllanthus emblica</i>	0.0456	0.0102	0.0039	0.0165	0.0763
27	<i>Diospyros glandulosa</i>	0.0452	0.0106	0.0031	0.0150	0.0739
28	<i>Holarrhena pubescens</i>	0.0441	0.0100	0.0035	0.0155	0.0731
29	<i>Styrax benzoides</i>	0.0323	0.0074	0.0025	0.0112	0.0534
30	<i>Gmelina arborea</i>	0.0303	0.0077	0.0015	0.0085	0.0480
31	<i>Vitex peduncularis</i>	0.0273	0.0062	0.0021	0.0095	0.0451
32	<i>Ampelocissus martinii</i>	0.0217	0.0051	0.0016	0.0073	0.0357
33	<i>Canarium subulatum</i>	0.0173	0.0040	0.0013	0.0059	0.0285
34	<i>Olea salicifolia</i>	0.0166	0.0039	0.0012	0.0057	0.0274
35	<i>Bombax anceps</i>	0.0169	0.0040	0.0011	0.0055	0.0274
36	<i>Eurya nitida</i>	0.0171	0.0042	0.0009	0.0051	0.0274
37	<i>Stereospermum neuranthum</i>	0.0153	0.0036	0.0011	0.0051	0.0251
38	<i>Canarium sp.</i>	0.0044	0.0010	0.0003	0.0015	0.0072
39	<i>Dalbergia foliacea</i>	0.0029	0.0007	0.0003	0.0011	0.0050
40	<i>Rapanea porteriiana</i>	0.0012	0.0002	0.0002	0.0006	0.0022
41	<i>Beilschmiedia gammieana</i>	0.0002	0.0000	0.0000	0.0001	0.0004
	Total	76	16	2	20	114

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				Total
		Stem	Branch	Leaf	Root	
	22 year-old pine plantation					
1	<i>Pinus kesiya</i>	29.9126	4.7281	1.0453	8.9157	44.6018
2	<i>Quercus brandisiana</i>	5.2284	1.4783	0.1712	1.2152	8.0931
3	<i>Quercus vestita</i>	2.5070	0.6462	0.1185	0.6935	3.9651
4	<i>Lithocarpus polystachyus</i>	2.2119	0.6014	0.0837	0.5521	3.4491
5	<i>Dalbergia cultrata</i>	1.6476	0.4481	0.0619	0.4103	2.5679
6	<i>Schima wallichii</i>	1.5433	0.4280	0.0521	0.3678	2.3913
7	<i>Wendlandia tinctoria</i>	1.3085	0.3251	0.0719	0.3884	2.0940
8	<i>Gluta obovata</i>	1.2135	0.3526	0.0357	0.2675	1.8693
9	<i>Lithocarpus elegans</i>	1.1435	0.2947	0.0539	0.3162	1.8082
10	<i>Tristania rufescens</i>	0.8986	0.2300	0.0483	0.2589	1.4358
11	<i>Lithocarpus sootepensis</i>	0.8812	0.2253	0.0434	0.2481	1.3981
12	<i>Castanopsis purpurea</i>	0.8460	0.2126	0.0441	0.2454	1.3482
13	<i>Ficus ribes</i>	0.6932	0.1830	0.0290	0.1822	1.0875
14	<i>Anneslea fragrans</i>	0.6567	0.1713	0.0296	0.1776	1.0352
15	<i>Erythrina subumbrans</i>	0.5249	0.1606	0.0114	0.1027	0.7997
16	<i>Litsea sp.</i>	0.5120	0.1453	0.0157	0.1167	0.7898
17	<i>Aporosa villosa</i>	0.4345	0.1033	0.0288	0.1406	0.7073
18	<i>Glochidion sphaerogynum</i>	0.3948	0.0971	0.0228	0.1197	0.6344
19	<i>Phyllanthus emblica</i>	0.3819	0.0890	0.0275	0.1284	0.6268
20	<i>Craibiodendron stellatum</i>	0.2807	0.0691	0.0164	0.0853	0.4514
21	<i>Ternstroemia gymnanthera</i>	0.2845	0.0727	0.0140	0.0801	0.4513
22	<i>Vaccinium sprengelii</i>	0.2168	0.0507	0.0154	0.0725	0.3554
23	<i>Shorea roxburghii</i>	0.2080	0.0518	0.0115	0.0616	0.3330
24	<i>Syzygium cumini</i>	0.1841	0.0454	0.0107	0.0558	0.2960
25	<i>Semecarpus albescens</i>	0.1741	0.0479	0.0063	0.0426	0.2709
26	<i>Ilex umbellulata</i>	0.1569	0.0426	0.0057	0.0388	0.2440
27	<i>Dalbergia assamica</i>	0.1489	0.0389	0.0065	0.0399	0.2342
28	<i>Eriolaena candollei</i>	0.1414	0.0398	0.0044	0.0326	0.2182
29	<i>Glochidion hirsutum</i>	0.1220	0.0273	0.0105	0.0445	0.2042
30	<i>Engelhardtia serrata</i>	0.1210	0.0291	0.0076	0.0381	0.1958
31	<i>Castanopsis diversifolia</i>	0.1243	0.0329	0.0052	0.0325	0.1949
32	<i>Canarium subulatum</i>	0.0971	0.0267	0.0033	0.0234	0.1506
33	<i>Diospyros glandulosa</i>	0.0956	0.0263	0.0033	0.0231	0.1483
34	<i>Pterospermum acerifolium</i>	0.0914	0.0245	0.0036	0.0234	0.1429
35	<i>Gardenia sootepensis</i>	0.0840	0.0206	0.0048	0.0254	0.1348
36	<i>Spondias bipinnata</i>	0.0672	0.0174	0.0030	0.0182	0.1058
37	<i>Stereospermum neuranthum</i>	0.0670	0.0175	0.0029	0.0180	0.1054
38	<i>Syzygium albiflorum</i>	0.0382	0.0097	0.0019	0.0108	0.0607
39	<i>Viburnum sambucinum</i>	0.0379	0.0094	0.0020	0.0112	0.0605
40	<i>Celastrus paniculata</i>	0.0340	0.0080	0.0023	0.0111	0.0554
41	<i>Lithocarpus lindleyanus</i>	0.0335	0.0082	0.0020	0.0103	0.0539
42	<i>Pavetta tomentosa</i>	0.0311	0.0070	0.0026	0.0111	0.0518
43	<i>Eurya nitida</i>	0.0308	0.0079	0.0015	0.0086	0.0488
44	<i>Vitex peduncularis</i>	0.0299	0.0076	0.0014	0.0083	0.0473
45	<i>Dillenia aurea</i>	0.0255	0.0064	0.0013	0.0073	0.0406
46	<i>Quercus semiserrata</i>	0.0246	0.0058	0.0017	0.0081	0.0402
47	<i>Antidesma acidum</i>	0.0202	0.0044	0.0020	0.0079	0.0345
48	<i>Symplocos racemosa</i>	0.0158	0.0039	0.0009	0.0048	0.0253
49	<i>Dolichandrone serrulata</i>	0.0154	0.0038	0.0009	0.0047	0.0247
50	<i>Beilschmiedia gammieana</i>	0.0150	0.0037	0.0009	0.0046	0.0241
51	<i>Ampelocissus martinii</i>	0.0144	0.0035	0.0008	0.0044	0.0232
52	<i>Engelhardtia spicata</i>	0.0102	0.0024	0.0007	0.0035	0.0168
53	<i>Helicia nilagirica</i>	0.0093	0.0022	0.0006	0.0030	0.0151
54	<i>Gluta usitata</i>	0.0078	0.0018	0.0006	0.0028	0.0130
55	<i>Catunaregam tomentosa</i>	0.0076	0.0018	0.0005	0.0025	0.0125
56	<i>Terminalia chebula</i>	0.0073	0.0016	0.0007	0.0027	0.0123
57	<i>Phoebe lanceolata</i>	0.0053	0.0012	0.0004	0.0018	0.0088
58	<i>Vangueria pubescens</i>	0.0042	0.0009	0.0004	0.0016	0.0070
59	<i>Antidesma sp.</i>	0.0029	0.0006	0.0003	0.0012	0.0050
60	<i>Xantolis cambodiana</i>	0.0015	0.0003	0.0002	0.0006	0.0025
61	<i>Smilax ovalifolia</i>	0.0006	0.0001	0.0001	0.0003	0.0011
	Total	56	12	2	16	86

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>23 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	23.5235	3.8088	0.8217	6.9742	35.1282
2	<i>Quercus vestita</i>	7.6438	2.2296	0.2199	1.6726	11.7659
3	<i>Lithocarpus polystachyus</i>	4.9467	1.4211	0.1505	1.1131	7.6315
4	<i>Schima wallichii</i>	1.8232	0.5251	0.0528	0.4044	2.8055
5	<i>Lithocarpus sootepensis</i>	1.1055	0.3129	0.0370	0.2579	1.7132
6	<i>Lithocarpus elegans</i>	0.8093	0.2178	0.0322	0.2064	1.2656
7	<i>Quercus kingiana</i>	0.7544	0.1939	0.0360	0.2097	1.1941
8	<i>Tristania rufescens</i>	0.6091	0.1498	0.0375	0.1879	0.9842
9	<i>Phyllanthus emblica</i>	0.5199	0.1300	0.0289	0.1538	0.8326
10	<i>Castanopsis purpurea</i>	0.5304	0.1468	0.0185	0.1275	0.8232
11	<i>Protium serratum</i>	0.5058	0.1460	0.0144	0.1115	0.7776
12	<i>Stereospermum neuranthum</i>	0.4452	0.1348	0.0101	0.0889	0.6791
13	<i>Dalbergia assamica</i>	0.4133	0.1064	0.0195	0.1144	0.6535
14	<i>Albizia odoratissima</i>	0.4262	0.1258	0.0114	0.0906	0.6541
15	<i>Craibiodendron stellatum</i>	0.3421	0.0858	0.0196	0.1017	0.5493
16	<i>Vaccinium sprengelii</i>	0.3016	0.0717	0.0207	0.0985	0.4925
17	<i>Lithocarpus fenestratus</i>	0.2857	0.0752	0.0124	0.0760	0.4493
18	<i>Styrax benzoides</i>	0.1738	0.0446	0.0082	0.0483	0.2749
19	<i>Aporosa villosa</i>	0.1697	0.0415	0.0102	0.0522	0.2735
20	<i>Dillenia aurea</i>	0.1768	0.0505	0.0052	0.0396	0.2721
21	<i>Anneslea fragrans</i>	0.1252	0.0316	0.0065	0.0361	0.1994
22	<i>Clausena wallichii</i>	0.1203	0.0313	0.0053	0.0323	0.1892
23	<i>Wendlandia tinctoria</i>	0.1081	0.0261	0.0068	0.0341	0.1751
24	<i>Vangueria pubescens</i>	0.0932	0.0227	0.0055	0.0286	0.1500
25	<i>Syzygium cumini</i>	0.0687	0.0175	0.0033	0.0193	0.1089
26	<i>Castanopsis diversifolia</i>	0.0615	0.0159	0.0028	0.0168	0.0970
27	<i>Celastrus paniculata</i>	0.0495	0.0123	0.0027	0.0146	0.0791
28	<i>Gluta obovata</i>	0.0414	0.0096	0.0031	0.0142	0.0683
29	<i>Glochidion sphaerogynum</i>	0.0378	0.0087	0.0028	0.0129	0.0623
30	<i>Ziziphus oenoplia</i>	0.0235	0.0059	0.0012	0.0068	0.0373
31	<i>Glochidion hirsutum</i>	0.0174	0.0040	0.0014	0.0061	0.0288
32	<i>Symplocos racemosa</i>	0.0155	0.0037	0.0010	0.0050	0.0253
33	<i>Dalbergia foliacea</i>	0.0150	0.0037	0.0009	0.0046	0.0241
34	<i>Gluta usitata</i>	0.0138	0.0031	0.0011	0.0048	0.0228
35	<i>Dalbergia cultrata</i>	0.0134	0.0031	0.0009	0.0045	0.0219
36	<i>Flacourtia indica</i>	0.0123	0.0030	0.0007	0.0038	0.0198
37	<i>Cratoxylum sumatranum</i>	0.0117	0.0028	0.0007	0.0037	0.0190
38	<i>Colona flagrocarpa</i>	0.0101	0.0022	0.0010	0.0039	0.0171
39	<i>Ternstroemia gymnanthera</i>	0.0105	0.0025	0.0007	0.0033	0.0170
40	<i>Lithocarpus lindleyanus</i>	0.0090	0.0021	0.0006	0.0029	0.0147
41	<i>Antidesma acidum</i>	0.0057	0.0013	0.0005	0.0021	0.0096
42	<i>Dolichandrone serrulata</i>	0.0046	0.0010	0.0004	0.0018	0.0078
43	<i>Symplocos henschelii</i>	0.0039	0.0009	0.0003	0.0014	0.0066
44	<i>Semecarpus anacardium</i>	0.0033	0.0007	0.0003	0.0012	0.0056
45	<i>Cratoxylum formosum</i>	0.0033	0.0007	0.0003	0.0012	0.0055
46	<i>Terminalia chebula</i>	0.0024	0.0005	0.0002	0.0009	0.0041
47	<i>Catunaregam tomentosa</i>	0.0015	0.0003	0.0002	0.0006	0.0026
48	<i>Engelhardtia spicata</i>	0.0003	0.0001	0.0000	0.0001	0.0005
49	<i>Turpinia pomifera</i>	0.0002	0.0000	0.0000	0.0001	0.0004
50	<i>Syzygium albiflorum</i>	0.0002	0.0000	0.0000	0.0001	0.0004
	Total	46	10	2	12	71

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>24 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	28.9852	4.5246	1.0132	8.6654	43.1882
2	<i>Castanopsis diversifolia</i>	13.6450	4.5655	0.2133	2.2691	20.6930
3	<i>Schima wallichii</i>	4.5893	1.4286	0.1005	0.8854	7.0038
4	<i>Elaeocarpus sphaericus</i>	3.2869	1.0255	0.0699	0.6283	5.0106
5	<i>Sarcosperma arboreum</i>	2.2453	0.7101	0.0430	0.4135	3.4119
6	<i>Syzygium cumini</i>	2.2190	0.7438	0.0327	0.3632	3.3586
7	<i>Helicia terminalis</i>	1.1902	0.3185	0.0474	0.3053	1.8614
8	<i>Erythrina subumbrans</i>	1.0008	0.3002	0.0241	0.2045	1.5296
9	<i>Glochidion sphaerogynum</i>	0.8615	0.2474	0.0252	0.1921	1.3262
10	<i>Ternstroemia gymnanthera</i>	0.5859	0.1675	0.0173	0.1314	0.9021
11	<i>Betula alnoides</i>	0.5761	0.1774	0.0122	0.1115	0.8772
12	<i>Engelhardtia serrata</i>	0.4721	0.1384	0.0125	0.1008	0.7238
13	<i>Styrax benzoides</i>	0.3877	0.1054	0.0147	0.0968	0.6045
14	<i>Magnolia henryi</i>	0.3387	0.1008	0.0083	0.0700	0.5179
15	<i>Engelhardtia spicata</i>	0.3332	0.0991	0.0082	0.0690	0.5095
16	<i>Dalbergia assamica</i>	0.1951	0.0540	0.0066	0.0466	0.3023
17	<i>Eurya nitida</i>	0.1505	0.0397	0.0072	0.0408	0.2381
18	<i>Dalbergia foliacea</i>	0.0808	0.0205	0.0039	0.0229	0.1282
19	<i>Phyllanthus emblica</i>	0.0668	0.0172	0.0032	0.0186	0.1058
20	<i>Callicarpa arborea</i>	0.0600	0.0160	0.0024	0.0154	0.0937
21	<i>Gmelina arborea</i>	0.0281	0.0072	0.0014	0.0079	0.0445
22	<i>Dolichandrone serrulata</i>	0.0238	0.0060	0.0012	0.0068	0.0378
23	<i>Gluta obovata</i>	0.0233	0.0056	0.0014	0.0073	0.0377
24	<i>Helicia nilagirica</i>	0.0188	0.0047	0.0010	0.0056	0.0300
25	<i>Stereospermum neuranthum</i>	0.0163	0.0040	0.0009	0.0049	0.0261
26	<i>Anneslea fragrans</i>	0.0156	0.0038	0.0009	0.0047	0.0250
27	<i>Wendlandia tinctoria</i>	0.0148	0.0033	0.0012	0.0052	0.0246
28	<i>Syzygium albiflorum</i>	0.0139	0.0033	0.0010	0.0046	0.0228
29	<i>Phoebe paniculata</i>	0.0133	0.0030	0.0011	0.0047	0.0222
30	<i>Holarrhena pubescens</i>	0.0093	0.0022	0.0006	0.0030	0.0151
31	<i>Diospyros glandulosa</i>	0.0057	0.0013	0.0004	0.0019	0.0094
32	<i>Turpinia pomifera</i>	0.0047	0.0011	0.0004	0.0016	0.0078
33	<i>Archidendron clypearia</i>	0.0033	0.0006	0.0005	0.0015	0.0060
34	<i>Pavetta tomentosa</i>	0.0016	0.0003	0.0002	0.0007	0.0028
35	<i>Symplocos sp.</i>	0.0006	0.0001	0.0001	0.0003	0.0011
36	<i>Melastoma sanguineum</i>	0.0004	0.0001	0.0001	0.0002	0.0009
37	<i>Rhus javanica</i>	0.0004	0.0001	0.0001	0.0002	0.0007
38	<i>Morinda tomentosa</i>	0.0003	0.0001	0.0001	0.0002	0.0006
39	<i>Pittosporum nepaulense</i>	0.0003	0.0001	0.0000	0.0001	0.0005
40	<i>Albizia odoratissima</i>	0.0003	0.0000	0.0001	0.0001	0.0005
41	<i>Olea salicifolia</i>	0.0002	0.0000	0.0000	0.0001	0.0004
42	<i>Canarium subulatum</i>	0.0002	0.0000	0.0000	0.0001	0.0004
43	<i>Vernonia volkameriifolia</i>	0.0002	0.0000	0.0000	0.0001	0.0003
44	<i>Acacia megaladena</i>	0.0001	0.0000	0.0000	0.0001	0.0003
45	<i>Lindera metcalfiana</i>	0.0001	0.0000	0.0000	0.0001	0.0002
46	<i>Litsea cubeba</i>	0.0000	0.0000	0.0000	0.0000	0.0001
	Total	61	15	2	15	93

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>25 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	37.7775	5.9948	1.3200	11.2417	56.3340
2	<i>Schima wallichii</i>	4.8453	1.4202	0.1348	1.0480	7.4483
3	<i>Castanopsis diversifolia</i>	2.7779	0.8255	0.0728	0.5844	4.2606
4	<i>Syzygium albiflorum</i>	2.6206	0.8769	0.0412	0.4353	3.9740
5	<i>Castanopsis purpurea</i>	1.7844	0.5841	0.0297	0.3075	2.7057
6	<i>Anneslea fragrans</i>	1.3367	0.3820	0.0418	0.3041	2.0646
7	<i>Castanopsis acuminatissima</i>	1.2011	0.3551	0.0304	0.2517	1.8383
8	<i>Wendlandia tinctoria</i>	0.7162	0.1742	0.0427	0.2210	1.1542
9	<i>Helicia nilagirica</i>	0.4964	0.1309	0.0214	0.1316	0.7803
10	<i>Ternstroemia gymnanthera</i>	0.4579	0.1237	0.0175	0.1152	0.7143
11	<i>Glochidion sphaerogynum</i>	0.4481	0.1234	0.0157	0.1085	0.6957
12	<i>Styrax benzoides</i>	0.3587	0.0921	0.0171	0.0998	0.5677
13	<i>Betula alnoides</i>	0.3000	0.0886	0.0076	0.0629	0.4592
14	<i>Gluta obovata</i>	0.2591	0.0649	0.0138	0.0758	0.4136
15	<i>Ficus ribes</i>	0.2402	0.0646	0.0094	0.0611	0.3752
16	<i>Engelhardtia serrata</i>	0.2290	0.0628	0.0081	0.0558	0.3557
17	<i>Lithocarpus sootepensis</i>	0.1980	0.0529	0.0080	0.0510	0.3099
18	<i>Diospyros glandulosa</i>	0.1794	0.0482	0.0069	0.0454	0.2800
19	<i>Callicarpa arborea</i>	0.1672	0.0476	0.0050	0.0377	0.2575
20	<i>Engelhardtia spicata</i>	0.1242	0.0318	0.0060	0.0347	0.1967
21	<i>Tristania rufescens</i>	0.1194	0.0296	0.0065	0.0354	0.1910
22	<i>Dalbergia foliacea</i>	0.0774	0.0192	0.0042	0.0230	0.1238
23	<i>Dalbergia assamica</i>	0.0704	0.0182	0.0032	0.0192	0.1109
24	<i>Dillenia aurea</i>	0.0586	0.0156	0.0023	0.0151	0.0917
25	<i>Phyllanthus emblica</i>	0.0463	0.0110	0.0030	0.0149	0.0752
26	<i>Magnolia henryi</i>	0.0450	0.0118	0.0019	0.0119	0.0706
27	<i>Phoebe paniculata</i>	0.0411	0.0104	0.0020	0.0117	0.0652
28	<i>Phoebe cathia</i>	0.0369	0.0095	0.0017	0.0100	0.0581
29	<i>Eurya nitida</i>	0.0300	0.0077	0.0014	0.0084	0.0475
30	<i>Gluta usitata</i>	0.0272	0.0066	0.0017	0.0085	0.0439
31	<i>Symplocos sp.</i>	0.0156	0.0038	0.0009	0.0047	0.0250
32	<i>Dolichandrone serrulata</i>	0.0062	0.0014	0.0005	0.0021	0.0102
33	<i>Elaeocarpus sphaericus</i>	0.0049	0.0011	0.0004	0.0017	0.0081
34	<i>Aporosa villosa</i>	0.0042	0.0010	0.0003	0.0015	0.0070
35	<i>Olea salicifolia</i>	0.0010	0.0002	0.0001	0.0004	0.0018
36	<i>Acacia megaladena</i>	0.0003	0.0000	0.0001	0.0001	0.0005
37	<i>Archidendron clypearia</i>	0.0002	0.0000	0.0000	0.0001	0.0004
38	<i>Albizia odoratissima</i>	0.0002	0.0000	0.0000	0.0001	0.0003
39	<i>Pavetta tomentosa</i>	0.0001	0.0000	0.0000	0.0001	0.0002
	Total	57	12	2	15	86

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>26 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	60.7425	10.9100	2.1162	17.3358	91.1046
2	<i>Schima wallichii</i>	10.7842	3.2861	0.2562	2.1655	16.4920
3	<i>Quercus semiserrata</i>	4.2742	1.4932	0.0526	0.6450	6.4651
4	<i>Castanopsis diversifolia</i>	4.2006	1.3500	0.0796	0.7589	6.3890
5	<i>Helicia nilagirica</i>	2.7324	0.8722	0.0501	0.4935	4.1482
6	<i>Syzygium albiflorum</i>	1.6136	0.5205	0.0296	0.2883	2.4520
7	<i>Ternstroemia gymnanthera</i>	1.4925	0.4550	0.0352	0.2983	2.2811
8	<i>Stereospermum neuranthum</i>	1.4426	0.4706	0.0239	0.2491	2.1862
9	<i>Syzygium cumini</i>	1.0245	0.3271	0.0186	0.1846	1.5547
10	<i>Castanopsis purpurea</i>	0.8584	0.2710	0.0164	0.1581	1.3038
11	<i>Dillenia aurea</i>	0.7471	0.2338	0.0148	0.1400	1.1356
12	<i>Phoebe paniculata</i>	0.7106	0.2092	0.0185	0.1506	1.0888
13	<i>Elaeocarpus sphaericus</i>	0.3619	0.1013	0.0117	0.0846	0.5594
14	<i>Engelhardtia spicata</i>	0.3552	0.0979	0.0123	0.0857	0.5512
15	<i>Toona ciliata</i>	0.3258	0.0968	0.0081	0.0677	0.4983
16	<i>Helicia terminalis</i>	0.2579	0.0684	0.0107	0.0672	0.4042
17	<i>Dalbergia assamica</i>	0.2411	0.0640	0.0101	0.0631	0.3783
18	<i>Lithocarpus elegans</i>	0.2123	0.0554	0.0094	0.0572	0.3343
19	<i>Castanopsis acuminatissima</i>	0.1972	0.0550	0.0065	0.0465	0.3051
20	<i>Quercus vestita</i>	0.0999	0.0262	0.0045	0.0267	0.1573
21	<i>Wendlandia tinctoria</i>	0.0865	0.0217	0.0045	0.0251	0.1378
22	<i>Myrica esculenta</i>	0.0760	0.0206	0.0028	0.0189	0.1182
23	<i>Albizia chinensis</i>	0.0642	0.0172	0.0025	0.0163	0.1002
24	<i>Glochidion sphaerogynum</i>	0.0564	0.0137	0.0034	0.0174	0.0909
25	<i>Styrax benzoides</i>	0.0467	0.0123	0.0020	0.0123	0.0732
26	<i>Vaccinium sprengelii</i>	0.0343	0.0084	0.0020	0.0105	0.0553
27	<i>Magnolia elegans</i>	0.0095	0.0022	0.0007	0.0032	0.0156
28	<i>Eurya nitida</i>	0.0081	0.0019	0.0006	0.0028	0.0134
29	<i>Terminalia chebula</i>	0.0047	0.0011	0.0004	0.0016	0.0078
30	<i>Aporosa villosa</i>	0.0009	0.0002	0.0001	0.0004	0.0016
31	<i>Acacia megaladena</i>	0.0001	0.0000	0.0000	0.0001	0.0002
	Total	93	21	3	23	140

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	27 year-old pine plantation					
1	<i>Pinus kesiya</i>	37.2149	6.4173	1.2978	10.7685	55.6985
2	<i>Schima wallichii</i>	17.0650	4.9732	0.4719	3.7025	26.2126
3	<i>Castanopsis diversifolia</i>	1.7928	0.5181	0.0514	0.3953	2.7576
4	<i>Glochidion sphaerogynum</i>	1.6902	0.4687	0.0589	0.4059	2.6237
5	<i>Phoebe paniculata</i>	1.5998	0.4601	0.0482	0.3579	2.4659
6	<i>Elaeocarpus sphaericus</i>	1.4678	0.4226	0.0423	0.3251	2.2578
7	<i>Dalbergia velutina</i>	1.1462	0.2907	0.0572	0.3261	1.8203
8	<i>Betula alnoides</i>	1.1062	0.3398	0.0237	0.2151	1.6848
9	<i>Buchanania lanzan</i>	1.0263	0.3144	0.0226	0.2012	1.5645
10	<i>Castanopsis purpurea</i>	0.9454	0.2768	0.0251	0.2023	1.4496
11	<i>Wendlandia tinctoria</i>	0.7068	0.1881	0.0292	0.1836	1.1076
12	<i>Lithocarpus elegans</i>	0.4620	0.1214	0.0200	0.1228	0.7263
13	<i>Syzygium albiflorum</i>	0.3815	0.1066	0.0131	0.0905	0.5918
14	<i>Styrax benzoides</i>	0.2443	0.0675	0.0091	0.0596	0.3805
15	<i>Albizia odoratissima</i>	0.2440	0.0709	0.0068	0.0531	0.3748
16	<i>Eurya nitida</i>	0.2142	0.0593	0.0079	0.0521	0.3335
17	<i>Helicia terminalis</i>	0.1942	0.0510	0.0086	0.0520	0.3058
18	<i>Quercus brandisiana</i>	0.1874	0.0537	0.0054	0.0417	0.2882
19	<i>Symplocos racemosa</i>	0.1718	0.0459	0.0068	0.0441	0.2685
20	<i>Castanopsis acuminatissima</i>	0.1622	0.0461	0.0049	0.0367	0.2499
21	<i>Cleidion spiciflorum</i>	0.1287	0.0345	0.0050	0.0327	0.2008
22	<i>Symplocos sp.</i>	0.1045	0.0275	0.0045	0.0277	0.1641
23	<i>Lithocarpus fenestratus</i>	0.0834	0.0213	0.0040	0.0233	0.1320
24	<i>Colona flagrocarpa</i>	0.0693	0.0187	0.0026	0.0174	0.1080
25	<i>Memecylon edule</i>	0.0584	0.0146	0.0031	0.0170	0.0931
26	<i>Syzygium cumini</i>	0.0558	0.0148	0.0023	0.0145	0.0874
27	<i>Mallotus paniculatus</i>	0.0441	0.0085	0.0071	0.0214	0.0812
28	<i>Markhamia pierrei</i>	0.0478	0.0125	0.0021	0.0127	0.0751
29	<i>Engelhardtia spicata</i>	0.0386	0.0096	0.0020	0.0113	0.0616
30	<i>Lithocarpus garrettianus</i>	0.0307	0.0078	0.0015	0.0087	0.0486
31	<i>Semecarpus albescens</i>	0.0286	0.0073	0.0014	0.0080	0.0453
32	<i>Helicia nilagirica</i>	0.0271	0.0066	0.0016	0.0083	0.0436
33	<i>Neolitsea zeylanica</i>	0.0170	0.0033	0.0027	0.0082	0.0311
34	<i>Myrica esculenta</i>	0.0178	0.0042	0.0012	0.0058	0.0290
35	<i>Anneslea fragrans</i>	0.0165	0.0040	0.0009	0.0050	0.0265
36	<i>Phoebe lanceolata</i>	0.0057	0.0012	0.0007	0.0025	0.0101
37	<i>Catunaregam tomentosa</i>	0.0041	0.0007	0.0009	0.0023	0.0081
38	<i>Phyllanthus emblica</i>	0.0039	0.0008	0.0004	0.0016	0.0067
39	<i>Archidendron clypearia</i>	0.0029	0.0006	0.0005	0.0014	0.0053
40	<i>Artocarpus sp.</i>	0.0027	0.0006	0.0004	0.0012	0.0048
41	<i>Blumea balsamifera</i>	0.0015	0.0003	0.0003	0.0008	0.0029
42	<i>Memecylon celastrinum</i>	0.0015	0.0003	0.0003	0.0008	0.0028
43	<i>Cinnamomum iners</i>	0.0015	0.0003	0.0003	0.0008	0.0028
44	<i>Litsea cubeba</i>	0.0014	0.0003	0.0002	0.0007	0.0026
45	<i>Mussaenda sanderiana</i>	0.0012	0.0002	0.0003	0.0007	0.0024
46	<i>Turpinia cochinchinensis</i>	0.0011	0.0002	0.0002	0.0005	0.0020
47	<i>Vernonia volkameriifolia</i>	0.0009	0.0002	0.0001	0.0004	0.0017
48	<i>Diospyros glandulosa</i>	0.0008	0.0001	0.0002	0.0004	0.0016
49	<i>Euodia roxburghiana</i>	0.0008	0.0001	0.0002	0.0005	0.0015
50	<i>Melastoma sanguineum</i>	0.0007	0.0001	0.0001	0.0004	0.0013
51	<i>Milletia pachycarpa</i>	0.0006	0.0001	0.0001	0.0004	0.0013
52	<i>Temstroemia gymnanthera</i>	0.0006	0.0001	0.0001	0.0003	0.0010
53	<i>Rhus javanica</i>	0.0005	0.0001	0.0001	0.0003	0.0009
54	<i>Glochidion arborescens</i>	0.0005	0.0001	0.0001	0.0002	0.0009
55	<i>Albizia chinensis</i>	0.0004	0.0001	0.0001	0.0002	0.0008
56	<i>Lindera metcalifiana</i>	0.0004	0.0001	0.0001	0.0002	0.0007
57	<i>Canthium sp.</i>	0.0003	0.0001	0.0001	0.0002	0.0006
58	<i>Kydia calycina</i>	0.0003	0.0001	0.0001	0.0002	0.0006
59	<i>Engelhardtia serrata</i>	0.0003	0.0001	0.0000	0.0001	0.0005
60	<i>Acacia megaladena</i>	0.0002	0.0000	0.0001	0.0001	0.0005
61	<i>Magnolia henryi</i>	0.0002	0.0000	0.0000	0.0001	0.0004
62	<i>Artocarpus lacucha</i>	0.0002	0.0000	0.0000	0.0001	0.0004
63	<i>Viburnum sambucinum</i>	0.0002	0.0000	0.0000	0.0001	0.0004
64	<i>Acacia pennata</i>	0.0002	0.0000	0.0001	0.0001	0.0004
65	<i>Syzygium sp.</i>	0.0002	0.0000	0.0000	0.0001	0.0004
66	<i>Antidesma acidum</i>	0.0002	0.0000	0.0000	0.0001	0.0004
67	<i>Craibiodendron stellatum</i>	0.0002	0.0000	0.0000	0.0001	0.0003
68	<i>Antiaris toxicaria</i>	0.0001	0.0000	0.0000	0.0001	0.0002
69	<i>Gluta obovata</i>	0.0001	0.0000	0.0000	0.0001	0.0002
70	<i>Ficus callosa</i>	0.0001	0.0000	0.0000	0.0000	0.0001
	Total	69	15	2	18	104

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>28 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	42.4083	8.0204	1.4757	11.8983	63.8028
2	<i>Schima wallichii</i>	7.2948	2.1837	0.1774	1.4966	11.1526
3	<i>Engelhardtia spicata</i>	0.8596	0.2448	0.0266	0.1957	1.3268
4	<i>Glochidion sphaerogynum</i>	0.7667	0.2156	0.0252	0.1793	1.1868
5	<i>Markhamia stipulata</i>	0.4248	0.1163	0.0150	0.1036	0.6598
6	<i>Castanopsis diversifolia</i>	0.4080	0.1153	0.0132	0.0945	0.6310
7	<i>Entada rheedii</i>	0.3560	0.1063	0.0086	0.0731	0.5440
8	<i>Colona flagrocarpa</i>	0.2745	0.0806	0.0072	0.0583	0.4207
9	<i>Stereospermum neuranthum</i>	0.1787	0.0493	0.0062	0.0431	0.2773
10	<i>Castanopsis purpurea</i>	0.1762	0.0503	0.0052	0.0395	0.2712
11	<i>Erythrina subumbrans</i>	0.0665	0.0170	0.0033	0.0187	0.1054
12	<i>Gmelina arborea</i>	0.0606	0.0151	0.0034	0.0181	0.0972
13	<i>Dalbergia foliacea</i>	0.0470	0.0115	0.0028	0.0144	0.0756
14	<i>Vaccinium sprengelii</i>	0.0476	0.0125	0.0020	0.0126	0.0747
15	<i>Dalbergia assamica</i>	0.0378	0.0094	0.0020	0.0111	0.0604
16	<i>Phyllanthus emblica</i>	0.0288	0.0070	0.0018	0.0090	0.0465
17	<i>Albizia odoratissima</i>	0.0281	0.0071	0.0014	0.0080	0.0446
18	<i>Syzygium albiflorum</i>	0.0263	0.0066	0.0014	0.0077	0.0420
19	<i>Litsea cubeba</i>	0.0185	0.0038	0.0023	0.0080	0.0326
20	<i>Ficus ribes</i>	0.0175	0.0040	0.0014	0.0062	0.0291
21	<i>Diospyros glandulosa</i>	0.0076	0.0016	0.0009	0.0031	0.0132
22	<i>Musa acuminata</i>	0.0048	0.0011	0.0004	0.0017	0.0079
23	<i>Archidendron clypearia</i>	0.0041	0.0009	0.0004	0.0016	0.0070
24	<i>Phoebe paniculata</i>	0.0031	0.0006	0.0005	0.0014	0.0056
25	<i>Wendlandia tinctoria</i>	0.0022	0.0004	0.0003	0.0010	0.0040
26	<i>Vernonia volkamerifolia</i>	0.0022	0.0004	0.0003	0.0010	0.0039
27	<i>Horsfieldia tomentosa</i>	0.0015	0.0003	0.0002	0.0006	0.0025
28	<i>Rhus javanica</i>	0.0013	0.0003	0.0002	0.0006	0.0023
29	<i>Phoebe lanceolata</i>	0.0008	0.0002	0.0001	0.0004	0.0015
30	<i>Acacia megaladena</i>	0.0003	0.0001	0.0001	0.0002	0.0006
31	<i>Eriolaena candollei</i>	0.0003	0.0001	0.0001	0.0002	0.0006
32	<i>Melastoma sanguineum</i>	0.0003	0.0001	0.0001	0.0002	0.0006
33	<i>Litsea monopetala</i>	0.0002	0.0000	0.0000	0.0001	0.0004
34	<i>Syzygium cumini</i>	0.0002	0.0000	0.0000	0.0001	0.0004
35	<i>Aporosa villosa</i>	0.0002	0.0000	0.0000	0.0001	0.0004
	Total	54	11	2	14	81

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>29 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	23.6881	3.8978	0.8270	6.9661	35.3790
2	<i>Castanopsis purpurea</i>	3.6884	1.0904	0.1026	0.7917	5.6731
3	<i>Schima wallichii</i>	3.1344	0.9395	0.0780	0.6453	4.7972
4	<i>Helicia terminalis</i>	2.1905	0.6122	0.0725	0.5160	3.3912
5	<i>Anneslea fragrans</i>	1.3692	0.4335	0.0263	0.2519	2.0808
6	<i>Quercus vestita</i>	0.6271	0.1804	0.0181	0.1391	0.9647
7	<i>Castanopsis diversifolia</i>	0.5485	0.1653	0.0136	0.1121	0.8395
8	<i>Helicia nilagirica</i>	0.4852	0.1400	0.0144	0.1080	0.7477
9	<i>Toona ciliata</i>	0.3945	0.1136	0.0112	0.0871	0.6064
10	<i>Myrica esculenta</i>	0.3557	0.0965	0.0134	0.0887	0.5543
11	<i>Engelhardtia spicata</i>	0.2981	0.0860	0.0087	0.0661	0.4588
12	<i>Wendlandia tinctoria</i>	0.2014	0.0475	0.0137	0.0660	0.3285
13	<i>Eriolaena candollei</i>	0.1996	0.0559	0.0065	0.0467	0.3087
14	<i>Erythrina subumbrans</i>	0.1938	0.0557	0.0055	0.0429	0.2979
15	<i>Cycas pectinata</i>	0.1186	0.0308	0.0052	0.0320	0.1866
16	<i>Acacia megaladena</i>	0.0752	0.0198	0.0032	0.0199	0.1181
17	<i>Camellia pleurocarpa</i>	0.0612	0.0160	0.0027	0.0163	0.0962
18	<i>Phyllanthus emblica</i>	0.0580	0.0146	0.0030	0.0168	0.0924
19	<i>Ternstroemia gymnanthera</i>	0.0538	0.0143	0.0022	0.0140	0.0842
20	<i>Tadehagi triquetrum</i>	0.0375	0.0095	0.0019	0.0106	0.0594
21	<i>Lithocarpus elegans</i>	0.0252	0.0064	0.0013	0.0072	0.0400
22	<i>Dalbergia foliacea</i>	0.0205	0.0051	0.0011	0.0060	0.0327
23	<i>Morinda tomentosa</i>	0.0156	0.0038	0.0009	0.0047	0.0250
24	<i>Pterospermum acerifolium</i>	0.0138	0.0034	0.0008	0.0042	0.0222
25	<i>Glochidion sphaerogynum</i>	0.0097	0.0023	0.0006	0.0031	0.0158
26	<i>Blunea balsamifera</i>	0.0072	0.0015	0.0008	0.0030	0.0125
27	<i>Glochidion hirsutum</i>	0.0070	0.0016	0.0005	0.0023	0.0114
28	<i>Catunaregam tomentosa</i>	0.0043	0.0009	0.0004	0.0016	0.0072
29	<i>Antidesma acidum</i>	0.0042	0.0009	0.0003	0.0015	0.0070
30	<i>Melastoma sanguineum</i>	0.0022	0.0004	0.0003	0.0010	0.0039
31	<i>Litsea cubeba</i>	0.0003	0.0001	0.0001	0.0002	0.0006
32	<i>Syzygium cumini</i>	0.0001	0.0000	0.0000	0.0001	0.0002
	Total	38	8	1	10	57

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>30 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	42.0085	7.7928	1.4625	11.8694	63.1332
2	<i>Castanopsis diversifolia</i>	8.0984	2.7634	0.1233	1.3128	12.2979
3	<i>Schima wallichii</i>	7.5962	2.1770	0.2252	1.7020	11.7003
4	<i>Castanopsis purpurea</i>	2.4978	0.7483	0.0601	0.5108	3.8170
5	<i>Dalbergia assamica</i>	1.9160	0.5558	0.0552	0.4215	2.9485
6	<i>Engelhardtia spicata</i>	1.6997	0.4861	0.0514	0.3835	2.6207
7	<i>Lithocarpus elegans</i>	1.4015	0.3862	0.0488	0.3385	2.1750
8	<i>Canarium subulatum</i>	0.2837	0.0835	0.0073	0.0599	0.4345
9	<i>Dolichandrone serrulata</i>	0.2570	0.0721	0.0083	0.0600	0.3974
10	<i>Myrica esculenta</i>	0.2556	0.0716	0.0081	0.0595	0.3949
11	<i>Sapindus rarak</i>	0.2029	0.0585	0.0057	0.0447	0.3119
12	<i>Albizia odoratissima</i>	0.1649	0.0454	0.0059	0.0402	0.2564
13	<i>Symplocos sp.</i>	0.1517	0.0429	0.0046	0.0346	0.2339
14	<i>Garuga pinnata</i>	0.1436	0.0405	0.0045	0.0330	0.2216
15	<i>Elaeocarpus sphaericus</i>	0.1125	0.0302	0.0044	0.0285	0.1756
16	<i>Wendlandia tinctoria</i>	0.0802	0.0198	0.0045	0.0241	0.1286
17	<i>Gluta obovata</i>	0.0756	0.0192	0.0037	0.0213	0.1198
18	<i>Blumea balsamifera</i>	0.0715	0.0193	0.0027	0.0179	0.1114
19	<i>Markhamia stipulata</i>	0.0684	0.0179	0.0030	0.0184	0.1077
20	<i>Colona flagrocarpa</i>	0.0496	0.0126	0.0024	0.0141	0.0786
21	<i>Gluta usitata</i>	0.0454	0.0113	0.0024	0.0133	0.0725
22	<i>Engelhardtia serrata</i>	0.0309	0.0079	0.0015	0.0086	0.0488
23	<i>Gmelina arborea</i>	0.0262	0.0065	0.0014	0.0077	0.0419
24	<i>Aporosa villosa</i>	0.0212	0.0053	0.0011	0.0062	0.0339
25	<i>Magnolia henryi</i>	0.0200	0.0048	0.0012	0.0063	0.0323
26	<i>Castanopsis acuminatissima</i>	0.0124	0.0030	0.0007	0.0039	0.0200
27	<i>Vaccinium sprengelii</i>	0.0115	0.0028	0.0007	0.0036	0.0186
28	<i>Erythrina subumbrans</i>	0.0113	0.0027	0.0007	0.0036	0.0183
29	<i>Acacia megaladena</i>	0.0103	0.0025	0.0007	0.0033	0.0168
30	<i>Symplocos racemosa</i>	0.0064	0.0014	0.0005	0.0023	0.0107
31	<i>Phyllanthus emblica</i>	0.0057	0.0012	0.0006	0.0022	0.0097
32	<i>Syzygium albiflorum</i>	0.0049	0.0011	0.0004	0.0017	0.0081
33	<i>Morinda tomentosa</i>	0.0016	0.0003	0.0002	0.0006	0.0027
34	<i>Phoebe paniculata</i>	0.0010	0.0002	0.0001	0.0004	0.0018
35	<i>Camellia pleurocarpa</i>	0.0006	0.0001	0.0001	0.0003	0.0010
36	<i>Lithocarpus sootepensis</i>	0.0002	0.0000	0.0000	0.0001	0.0004
	Total	67	15	2	17	102

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>31 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	24.2707	4.6081	0.8445	6.8058	36.5291
2	<i>Castanopsis diversifolia</i>	14.5224	4.4651	0.3302	2.8617	22.1793
3	<i>Schima wallichii</i>	11.2586	3.3752	0.2843	2.3277	17.2458
4	<i>Castanopsis acuminatissima</i>	4.8852	1.5067	0.1053	0.9471	7.4443
5	<i>Syzygium albiflorum</i>	2.8645	0.9584	0.0459	0.4779	4.3469
6	<i>Wendlandia tinctoria</i>	2.5589	0.6600	0.1196	0.7058	4.0444
7	<i>Myrica esculenta</i>	1.1451	0.3277	0.0339	0.2569	1.7637
8	<i>Olea salicifolia</i>	1.1263	0.3462	0.0241	0.2185	1.7151
9	<i>Syzygium cumini</i>	1.1277	0.3610	0.0206	0.2028	1.7121
10	<i>Helicia terminalis</i>	1.0545	0.2915	0.0368	0.2542	1.6370
11	<i>Elaeocarpus sphaericus</i>	0.6328	0.1772	0.0210	0.1488	0.9798
12	<i>Ternstroemia gymnanthera</i>	0.6016	0.1758	0.0168	0.1305	0.9247
13	<i>Dalbergia cultrata</i>	0.5562	0.1636	0.0144	0.1178	0.8520
14	<i>Canarium subulatum</i>	0.5007	0.1463	0.0133	0.1074	0.7677
15	<i>Docynia indica</i>	0.2979	0.0827	0.0100	0.0708	0.4614
16	<i>Symplocos sp.</i>	0.2485	0.0669	0.0095	0.0627	0.3876
17	<i>Phoebe paniculata</i>	0.2452	0.0684	0.0081	0.0578	0.3794
18	<i>Anneslea fragrans</i>	0.2377	0.0629	0.0098	0.0620	0.3723
19	<i>Phyllanthus emblica</i>	0.1734	0.0436	0.0090	0.0503	0.2762
20	<i>Rapanea portेरiana</i>	0.1383	0.0351	0.0068	0.0391	0.2193
21	<i>Eurya nitida</i>	0.1247	0.0337	0.0047	0.0313	0.1944
22	<i>Gluta obovata</i>	0.1194	0.0319	0.0049	0.0308	0.1870
23	<i>Engelhardtia spicata</i>	0.0810	0.0204	0.0042	0.0235	0.1292
24	<i>Diospyros glandulosa</i>	0.0681	0.0178	0.0029	0.0181	0.1070
25	<i>Helicia nilagirica</i>	0.0661	0.0172	0.0030	0.0178	0.1042
26	<i>Gochmatia decora</i>	0.0621	0.0166	0.0024	0.0158	0.0970
27	<i>Styrax benzoides</i>	0.0450	0.0118	0.0019	0.0119	0.0706
28	<i>Albizia odoratissima</i>	0.0439	0.0115	0.0019	0.0117	0.0689
29	<i>Betula alnoides</i>	0.0428	0.0112	0.0018	0.0114	0.0672
30	<i>Glochidion sphaerogynum</i>	0.0324	0.0083	0.0015	0.0090	0.0512
31	<i>Memecylon celastrinum</i>	0.0307	0.0074	0.0020	0.0098	0.0499
32	<i>Lithocarpus thomsonii</i>	0.0252	0.0064	0.0013	0.0072	0.0400
33	<i>Ardisia attenuata</i>	0.0209	0.0052	0.0011	0.0061	0.0333
34	<i>Turpinia pomifera</i>	0.0123	0.0030	0.0007	0.0038	0.0198
35	<i>Eriolaena candollei</i>	0.0028	0.0006	0.0003	0.0010	0.0046
36	<i>Ficus tinctoria</i>	0.0020	0.0004	0.0002	0.0008	0.0034
37	<i>Ficus maclellandii</i>	0.0003	0.0001	0.0000	0.0001	0.0005
38	<i>Acacia megaladena</i>	0.0002	0.0000	0.0000	0.0001	0.0004
39	<i>Erythrina subumbrans</i>	0.0001	0.0000	0.0000	0.0000	0.0002
	Total	69	18	2	16	105

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>32 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	47.6788	8.6415	1.6607	13.5585	71.5395
2	<i>Schima wallichii</i>	13.3880	4.1386	0.2909	2.5945	20.4119
3	<i>Syzygium cumini</i>	5.0926	1.7989	0.0598	0.7520	7.7032
4	<i>Castanopsis acuminatissima</i>	3.7891	1.1549	0.0843	0.7482	5.7765
5	<i>Phoebe paniculata</i>	1.5034	0.4816	0.0276	0.2706	2.2833
6	<i>Xanthophyllum virens</i>	1.1030	0.3329	0.0264	0.2238	1.6860
7	<i>Elaeocarpus sphaericus</i>	0.8832	0.2524	0.0262	0.1984	1.3602
8	<i>Magnolia henryi</i>	0.8599	0.2691	0.0174	0.1618	1.3082
9	<i>Castanopsis tribuloides</i>	0.6994	0.2087	0.0170	0.1439	1.0690
10	<i>Knema erratica</i>	0.6109	0.1888	0.0128	0.1174	0.9298
11	<i>Betula alnoides</i>	0.5112	0.1562	0.0112	0.1004	0.7789
12	<i>Albizia chinensis</i>	0.4197	0.1267	0.0097	0.0845	0.6406
13	<i>Engelhardtia spicata</i>	0.3143	0.0892	0.0095	0.0714	0.4844
14	<i>Erythrina subumbrans</i>	0.2828	0.0832	0.0073	0.0598	0.4331
15	<i>Myrica esculenta</i>	0.2011	0.0554	0.0070	0.0486	0.3121
16	<i>Glochidion sphaerogynum</i>	0.1648	0.0459	0.0056	0.0392	0.2555
17	<i>Symplocos sp.</i>	0.1547	0.0438	0.0047	0.0352	0.2385
18	<i>Anneslea fragrans</i>	0.1476	0.0417	0.0045	0.0338	0.2277
19	<i>Styrax benzoides</i>	0.1166	0.0306	0.0050	0.0309	0.1831
20	<i>Luvunga scandens</i>	0.0834	0.0227	0.0030	0.0205	0.1297
21	<i>Musa acuminata</i>	0.0527	0.0132	0.0028	0.0153	0.0840
22	<i>Syzygium sp.</i>	0.0522	0.0136	0.0024	0.0142	0.0825
23	<i>Gmelina arborea</i>	0.0252	0.0064	0.0013	0.0072	0.0400
24	<i>Eurya nitida</i>	0.0240	0.0061	0.0012	0.0069	0.0382
25	<i>Syzygium albiflorum</i>	0.0135	0.0029	0.0013	0.0052	0.0229
26	<i>Memecylon celastrinum</i>	0.0126	0.0030	0.0008	0.0039	0.0203
27	<i>Wendlandia tinctoria</i>	0.0100	0.0022	0.0009	0.0037	0.0168
28	<i>Phyllanthus emblica</i>	0.0066	0.0015	0.0006	0.0024	0.0111
29	<i>Olea salicifolia</i>	0.0049	0.0011	0.0004	0.0017	0.0082
30	<i>Syzygium sp.</i>	0.0042	0.0010	0.0003	0.0015	0.0070
31	<i>Milletia pachycarpa</i>	0.0024	0.0005	0.0003	0.0010	0.0041
32	<i>Litsea cubeba</i>	0.0011	0.0002	0.0003	0.0006	0.0022
33	<i>Albizia odoratissima</i>	0.0006	0.0001	0.0001	0.0003	0.0011
34	<i>Trichilla connaroides</i>	0.0002	0.0000	0.0000	0.0001	0.0004
	Total	78	18	2	19	118

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	33 year-old pine plantation					
1	<i>Pinus kesiya</i>	70.6927	13.6178	2.4588	19.7039	106.4731
2	<i>Musa acuminata</i>	1.2318	0.2918	0.0826	0.4010	2.0073
3	<i>Wendlandia tinctoria</i>	1.0031	0.3193	0.0187	0.1822	1.5233
4	<i>Cinnamomum iners</i>	0.7383	0.2153	0.0199	0.1590	1.1326
5	<i>Albizia chinensis</i>	0.4209	0.1270	0.0097	0.0847	0.6424
6	<i>Magnolia henryi</i>	0.3722	0.1112	0.0092	0.0766	0.5692
7	<i>Mallotus barbatus</i>	0.1641	0.0433	0.0076	0.0442	0.2591
8	<i>Dalbergia oliveri</i>	0.0434	0.0114	0.0019	0.0116	0.0682
9	<i>Litsea cubeba</i>	0.0243	0.0052	0.0026	0.0098	0.0419
10	<i>Glochidion acuminatum</i>	0.0254	0.0059	0.0020	0.0087	0.0419
11	<i>Ilex umbellulata</i>	0.0225	0.0057	0.0012	0.0065	0.0358
12	<i>Melastoma sanguineum</i>	0.0120	0.0025	0.0013	0.0049	0.0207
13	<i>Grewia laevigata</i>	0.0101	0.0024	0.0007	0.0033	0.0166
14	<i>Ficus ribes</i>	0.0088	0.0019	0.0010	0.0036	0.0152
15	<i>Tadehagi triquetrum</i>	0.0080	0.0016	0.0010	0.0035	0.0142
16	<i>Artocarpus lacucha</i>	0.0081	0.0017	0.0010	0.0034	0.0142
17	<i>Laportea bulbifera</i>	0.0079	0.0017	0.0008	0.0031	0.0134
18	<i>Sapindus rarak</i>	0.0071	0.0015	0.0008	0.0029	0.0123
19	<i>Saurauia napaulensis</i>	0.0062	0.0012	0.0010	0.0031	0.0115
20	<i>Archidendron clypearia</i>	0.0060	0.0013	0.0006	0.0023	0.0102
21	<i>Horsfieldia tomentosa</i>	0.0059	0.0013	0.0005	0.0022	0.0099
22	<i>Phoebe cathia</i>	0.0056	0.0012	0.0005	0.0020	0.0093
23	<i>Ficus sp.</i>	0.0051	0.0011	0.0005	0.0019	0.0087
24	<i>Lindera metcalifiana</i>	0.0039	0.0008	0.0005	0.0017	0.0069
25	<i>Mussaenda sandariana</i>	0.0034	0.0007	0.0005	0.0016	0.0062
26	<i>Milletia pachycarpa</i>	0.0036	0.0008	0.0004	0.0014	0.0061
27	<i>Alangium chinensis</i>	0.0035	0.0008	0.0004	0.0014	0.0060
28	<i>Neolitsea zeylanica</i>	0.0029	0.0006	0.0004	0.0013	0.0051
29	<i>Myrica esculenta</i>	0.0019	0.0004	0.0002	0.0008	0.0033
30	<i>Trevesia palmata</i>	0.0019	0.0004	0.0002	0.0008	0.0032
31	<i>Litsea monopetala</i>	0.0017	0.0004	0.0002	0.0007	0.0029
32	<i>Aegialitis rotundifolia</i>	0.0016	0.0003	0.0002	0.0007	0.0029
33	<i>Nyssa javanica</i>	0.0013	0.0002	0.0003	0.0007	0.0026
34	<i>Schima wallichii</i>	0.0013	0.0003	0.0002	0.0006	0.0024
35	<i>Ardisia attenuata</i>	0.0013	0.0003	0.0002	0.0006	0.0024
36	<i>Bridelia retusa</i>	0.0012	0.0002	0.0002	0.0005	0.0021
37	<i>Sorbus granulosa</i>	0.0012	0.0003	0.0001	0.0005	0.0021
38	<i>Phoebe paniculata</i>	0.0011	0.0002	0.0002	0.0005	0.0021
39	<i>Ampelocissus martinii</i>	0.0010	0.0002	0.0002	0.0005	0.0019
40	<i>Rauvolfia cambodiana</i>	0.0006	0.0001	0.0001	0.0003	0.0012
41	<i>Desmodium megaphyllum</i>	0.0005	0.0001	0.0001	0.0003	0.0009
42	<i>Eurya nitida</i>	0.0005	0.0001	0.0001	0.0002	0.0009
43	<i>Tetrastigma quadrangulatum</i>	0.0004	0.0001	0.0001	0.0002	0.0008
44	<i>Canthium berberidifolium</i>	0.0004	0.0001	0.0001	0.0002	0.0008
45	<i>Rubus rugosus</i>	0.0004	0.0001	0.0001	0.0002	0.0007
46	<i>Terminalia chebula</i>	0.0003	0.0001	0.0001	0.0002	0.0006
47	<i>Macaranga kurzii</i>	0.0002	0.0000	0.0000	0.0001	0.0004
48	<i>Glochidion hirsutum</i>	0.0002	0.0000	0.0000	0.0001	0.0003
49	<i>Turpinia cochinchinensis</i>	0.0002	0.0000	0.0000	0.0001	0.0003
50	<i>Ficus hispida</i>	0.0001	0.0000	0.0000	0.0001	0.0003
51	<i>Gaultheria notabilis</i>	0.0001	0.0000	0.0000	0.0001	0.0002
52	<i>Stereospermum neuranthum</i>	0.0001	0.0000	0.0000	0.0000	0.0002
53	<i>Fraxinus floribunda</i>	0.0001	0.0000	0.0000	0.0000	0.0001
	Total	75	15	3	21	113

Table 3-4 (Continued)

No	Species	Carbon (Mg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>34 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	32.4536	5.9858	1.1301	9.1963	48.7658
2	<i>Castanopsis purpurea</i>	15.9983	4.7399	0.4179	3.3727	24.5287
3	<i>Quercus vestita</i>	7.2778	2.2627	0.1520	1.3893	11.0817
4	<i>Schima wallichii</i>	5.2432	1.6592	0.1012	0.9661	7.9698
5	<i>Quercus brandisiana</i>	3.5352	1.0392	0.0959	0.7575	5.4278
6	<i>Syzygium cumini</i>	1.7241	0.5688	0.0272	0.2912	2.6113
7	<i>Wendlandia tinctoria</i>	0.8743	0.2234	0.0424	0.2453	1.3854
8	<i>Dalbergia assamica</i>	0.8151	0.2288	0.0283	0.1933	1.2654
9	<i>Viburnum sambucinum</i>	0.4484	0.1344	0.0110	0.0919	0.6856
10	<i>Aporosa villosa</i>	0.3648	0.0930	0.0180	0.1030	0.5788
11	<i>Glochidion sphaerogynum</i>	0.2955	0.0800	0.0117	0.0749	0.4620
12	<i>Craibiodendron stellatum</i>	0.2248	0.0598	0.0096	0.0588	0.3529
13	<i>Lithocarpus elegans</i>	0.2106	0.0595	0.0068	0.0487	0.3256
14	<i>Albizia odoratissima</i>	0.1955	0.0509	0.0086	0.0526	0.3076
15	<i>Phyllanthus emblica</i>	0.1557	0.0355	0.0125	0.0549	0.2586
16	<i>Cycas pectinata</i>	0.1322	0.0346	0.0058	0.0353	0.2079
17	<i>Lithocarpus sootepensis</i>	0.1284	0.0359	0.0041	0.0299	0.1983
18	<i>Stereospermum colias</i>	0.1149	0.0320	0.0038	0.0272	0.1779
19	<i>Vaccinium sprengelii</i>	0.0813	0.0217	0.0034	0.0211	0.1274
20	<i>Glochidion hirsutum</i>	0.0779	0.0190	0.0046	0.0238	0.1254
21	<i>Eriolaena candollei</i>	0.0762	0.0190	0.0041	0.0224	0.1217
22	<i>Horsfieldia tomentosa</i>	0.0317	0.0081	0.0015	0.0088	0.0501
23	<i>Albizia chinensis</i>	0.0226	0.0057	0.0012	0.0065	0.0360
24	<i>Canarium subulatum</i>	0.0207	0.0052	0.0011	0.0060	0.0330
25	<i>Anneslea fragrans</i>	0.0172	0.0041	0.0012	0.0056	0.0280
26	<i>Pavetta tomentosa</i>	0.0141	0.0034	0.0010	0.0046	0.0231
27	<i>Helicia nilagirica</i>	0.0114	0.0027	0.0008	0.0038	0.0187
28	<i>Styrax benzoides</i>	0.0110	0.0026	0.0007	0.0036	0.0179
29	<i>Diospyros glandulosa</i>	0.0097	0.0023	0.0006	0.0031	0.0158
30	<i>Gluta usitata</i>	0.0097	0.0023	0.0006	0.0031	0.0158
31	<i>Antidesma acidum</i>	0.0081	0.0018	0.0007	0.0030	0.0136
32	<i>Dalbergia cultrata</i>	0.0071	0.0017	0.0005	0.0024	0.0117
33	<i>Phoebe paniculata</i>	0.0059	0.0013	0.0006	0.0023	0.0100
34	<i>Canthium sp.</i>	0.0058	0.0012	0.0006	0.0023	0.0099
35	<i>Engelhardtia spicata</i>	0.0052	0.0011	0.0005	0.0020	0.0089
36	<i>Protium serratum</i>	0.0026	0.0005	0.0004	0.0012	0.0047
37	<i>Dillenia aurea</i>	0.0023	0.0005	0.0002	0.0009	0.0040
38	<i>Syzygium albiflorum</i>	0.0019	0.0004	0.0003	0.0009	0.0034
39	<i>Rhus javanica</i>	0.0010	0.0002	0.0002	0.0005	0.0018
40	<i>Tristania rufescens</i>	0.0008	0.0002	0.0001	0.0003	0.0014
41	<i>Symplocos racemosa</i>	0.0007	0.0001	0.0001	0.0003	0.0012
42	<i>Schoepfia fragrans</i>	0.0006	0.0001	0.0001	0.0003	0.0011
43	<i>Litsea cubeba</i>	0.0006	0.0001	0.0001	0.0003	0.0011
44	<i>Maesa permollis</i>	0.0005	0.0001	0.0001	0.0003	0.0009
45	<i>Blumea balsamifera</i>	0.0005	0.0001	0.0001	0.0002	0.0009
46	<i>Castanopsis diversifolia</i>	0.0003	0.0001	0.0001	0.0002	0.0006
47	<i>Eurya nitida</i>	0.0002	0.0000	0.0000	0.0001	0.0004
48	<i>Celastrus paniculata</i>	0.0002	0.0000	0.0000	0.0001	0.0004
49	<i>Tadehagi triquetrum</i>	0.0002	0.0000	0.0000	0.0001	0.0003
50	<i>Engelhardtia serrata</i>	0.0002	0.0000	0.0000	0.0001	0.0003
	Total	71	17	2	17	107

Table 3-5 Nitrogen storages of tree species in a series of pine plantations

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>14 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	37.9240	19.4239	17.6941	63.2333	138.2753
2	<i>Glochidion sphaerogynum</i>	67.8497	19.0045	7.7660	17.3428	111.9630
3	<i>Schima wallichii</i>	37.3577	11.4618	2.9027	7.9914	59.7136
4	<i>Albizia chinensis</i>	24.3020	7.4478	1.8482	5.1756	38.7735
5	<i>Callicarpa arborea</i>	11.7786	3.5471	0.9669	2.5976	18.8902
6	<i>Litsea sp.</i>	10.6361	3.0215	1.1145	2.6263	17.3984
7	<i>Castanopsis diversifolia</i>	10.0173	3.1104	0.7133	2.0745	15.9156
8	<i>Ficus ribes</i>	8.2330	2.4740	0.6698	1.8156	13.1924
9	<i>Eriolaena candollei</i>	7.2985	2.1811	0.6194	1.6336	11.7326
10	<i>Myrica esculenta</i>	6.3002	1.8524	0.5838	1.4632	10.1997
11	<i>Syzygium cumini</i>	5.9678	1.8564	0.4269	1.2350	9.4860
12	<i>Engelhardtia spicata</i>	5.6819	1.6102	0.6256	1.4228	9.3405
13	<i>Archidendron clypearia</i>	5.6984	1.7894	0.3824	1.1516	9.0218
14	<i>Ficus callosa</i>	5.2522	1.4477	0.6237	1.3746	8.6982
15	<i>Albizia odoratissima</i>	4.3838	1.3540	0.3159	0.9152	6.9690
16	<i>Phyllanthus emblica</i>	2.3788	0.5976	0.4238	0.7481	4.1483
17	<i>Phoebe lanceolata</i>	2.1643	0.6394	0.1890	0.4932	3.4859
18	<i>Grewia laevigata</i>	2.0960	0.6179	0.1846	0.4795	3.3782
19	<i>Litsea monopetala</i>	0.8192	0.2200	0.1092	0.2258	1.3741
20	<i>Colona flagrocarpa</i>	0.6468	0.1699	0.0941	0.1859	1.0966
21	<i>Memecylon celastrinum</i>	0.6382	0.1677	0.0927	0.1832	1.0818
22	<i>Ternstroemia gymnanthera</i>	0.5437	0.1388	0.0900	0.1654	0.9380
23	<i>Wendlandia tinctoria</i>	0.4768	0.1225	0.0766	0.1433	0.8192
24	<i>Eurya nitida</i>	0.4335	0.1157	0.0586	0.1206	0.7285
25	<i>Glochidion hirsutum</i>	0.4037	0.1001	0.0750	0.1298	0.7086
26	<i>Horsfieldia tomentosa</i>	0.2906	0.0726	0.0525	0.0922	0.5079
27	<i>Dolichandrone serrulata</i>	0.2747	0.0673	0.0545	0.0907	0.4872
28	<i>Aporosa villosa</i>	0.2736	0.0684	0.0495	0.0868	0.4783
29	<i>Syzygium albiflorum</i>	0.1839	0.0426	0.0465	0.0678	0.3409
30	<i>Flacourtia indica</i>	0.1043	0.0254	0.0208	0.0346	0.1851
31	<i>Congea tomentosa</i>	0.0925	0.0224	0.0190	0.0312	0.1650
32	<i>Flemingia lineata</i>	0.0436	0.0101	0.0110	0.0161	0.0808
33	<i>Stereospermum neuranthum</i>	0.0240	0.0053	0.0071	0.0096	0.0461
34	<i>Glochidion acuminatum</i>	0.0081	0.0016	0.0039	0.0040	0.0177
35	<i>Melastoma sanguineum</i>	0.0035	0.0007	0.0018	0.0018	0.0077
36	<i>Micromelum minutum</i>	0.0025	0.0005	0.0014	0.0013	0.0057
	Total	261	85	39	115	500

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	15 year-old pine plantation					
1	<i>Pinus kesiya</i>	15.0923	7.3288	7.0507	25.6313	55.1032
2	<i>Schima wallichii</i>	43.2140	12.9632	3.7444	9.6862	69.6079
3	<i>Castanopsis acuminatissima</i>	36.7052	11.8549	2.2002	7.0321	57.7924
4	<i>Engelhardtia spicata</i>	21.4169	6.4347	1.7768	4.7456	34.3740
5	<i>Beilschmiedia gammieana</i>	21.5388	7.0031	1.3089	4.1119	33.9628
6	<i>Dillenia aurea</i>	16.6051	5.4052	1.0065	3.1651	26.1819
7	<i>Ternstroemia gymnanthera</i>	15.9280	4.6322	1.5073	3.7547	25.8223
8	<i>Helicia terminalis</i>	11.6734	3.4904	0.9920	2.6127	18.7686
9	<i>Phoebe paniculata</i>	9.6845	2.6755	1.1862	2.5478	16.0940
10	<i>Trichilla connaroides</i>	9.1895	2.8912	0.6300	1.8616	14.5724
11	<i>Stereospermum neuranthum</i>	8.5220	2.6468	0.6052	1.7639	13.5380
12	<i>Elaeocarpus sphaericus</i>	5.5733	1.7097	0.4336	1.1913	8.9079
13	<i>Helicia nilagirica</i>	4.6243	1.3093	0.4883	1.1472	7.5691
14	<i>Dalbergia assamica</i>	4.5845	1.4200	0.3264	0.9518	7.2827
15	<i>Castanopsis diversifolia</i>	3.6062	1.0936	0.2902	0.7851	5.7751
16	<i>Glochidion sphaerogynum</i>	3.2017	0.9009	0.3822	0.8219	5.3067
17	<i>Lindera metcalfiana</i>	3.0931	0.7792	0.5654	0.9755	5.4133
18	<i>Memecylon celastrinum</i>	2.8625	0.7195	0.5432	0.9122	5.0374
19	<i>Pyrenaria diospyricarpa</i>	2.4546	0.5811	0.5749	0.8709	4.4816
20	<i>Eurya nitida</i>	2.2738	0.6011	0.3342	0.6508	3.8599
21	<i>Wendlandia tinctoria</i>	2.0400	0.5475	0.2762	0.5649	3.4286
22	<i>Magnolia henryi</i>	1.4699	0.3983	0.1915	0.3996	2.4593
23	<i>Diospyros glandulosa</i>	1.0060	0.2518	0.1937	0.3230	1.7744
24	<i>Eriolaena candollei</i>	0.8220	0.2284	0.0934	0.2112	1.3551
25	<i>Symplocos henschelii</i>	0.7834	0.2107	0.1063	0.2164	1.3168
26	<i>Glochidion acuminatum</i>	0.5217	0.1107	0.2128	0.2346	1.0798
27	<i>Vitex canescens</i>	0.5901	0.1606	0.0734	0.1580	0.9820
28	<i>Phoebe cathia</i>	0.4445	0.1137	0.0721	0.1343	0.7646
29	<i>Saurauia roxburghii</i>	0.4005	0.0985	0.0797	0.1319	0.7107
30	<i>Archidendron clypearia</i>	0.2936	0.0687	0.0745	0.1074	0.5443
31	<i>Albizia odoratissima</i>	0.1927	0.0465	0.0406	0.0654	0.3452
32	<i>Quercus semiserrata</i>	0.1764	0.0435	0.0342	0.0576	0.3117
33	<i>Turpinia cochinchinensis</i>	0.1576	0.0395	0.0281	0.0497	0.2748
34	<i>Melastoma sanguineum</i>	0.0868	0.0168	0.0484	0.0457	0.1978
35	<i>Rhus javanica</i>	0.0666	0.0154	0.0177	0.0248	0.1245
36	<i>Phyllanthus emblica</i>	0.0634	0.0146	0.0163	0.0235	0.1179
37	<i>Blumea balsamifera</i>	0.0201	0.0039	0.0106	0.0103	0.0450
38	<i>Micromelum minutum</i>	0.0140	0.0028	0.0070	0.0071	0.0309
39	<i>Mussaenda sanderiana</i>	0.0107	0.0023	0.0040	0.0047	0.0217
40	<i>Lepisanthes rubiginosa</i>	0.0092	0.0018	0.0047	0.0047	0.0204
41	<i>Fissistigma minuticalyx</i>	0.0035	0.0007	0.0018	0.0018	0.0077
42	<i>Ampelocissus martinii</i>	0.0023	0.0004	0.0013	0.0012	0.0052
43	<i>Litsea monopetala</i>	0.0020	0.0004	0.0012	0.0011	0.0047
44	<i>Eurya acuminata</i>	0.0018	0.0003	0.0011	0.0010	0.0042
45	<i>Cinnamomum iners</i>	0.0016	0.0003	0.0010	0.0009	0.0037
46	<i>Euodia roxburghiana</i>	0.0015	0.0003	0.0009	0.0008	0.0035
47	<i>Milletia pachycarpa</i>	0.0014	0.0003	0.0009	0.0008	0.0034
48	<i>Litsea cubeba</i>	0.0009	0.0002	0.0007	0.0006	0.0023
49	<i>Arytera littoralis</i>	0.0009	0.0002	0.0007	0.0006	0.0023
50	<i>Myrica esculenta</i>	0.0009	0.0002	0.0006	0.0005	0.0022
51	<i>Styrax benzoides</i>	0.0009	0.0002	0.0006	0.0005	0.0022
52	<i>Litsea glutinosa</i>	0.0008	0.0002	0.0006	0.0005	0.0021
53	<i>Viburnum sambucinum</i>	0.0004	0.0001	0.0004	0.0003	0.0012
54	<i>Buddleja asiatica</i>	0.0003	0.0000	0.0003	0.0002	0.0008
	Total	251	79	28	78	435

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>16 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	79.1621	40.2108	36.9449	132.5658	288.8837
2	<i>Schima wallichii</i>	16.7390	4.8683	1.5934	3.9509	27.1516
3	<i>Canarium subulatum</i>	6.2128	1.8461	0.5347	1.4033	9.9968
4	<i>Wendlandia tinctoria</i>	5.8913	1.6204	0.7251	1.5584	9.7951
5	<i>Spatholobus parviflorus</i>	5.3787	1.6116	0.4421	1.1922	8.6247
6	<i>Engelhardtia spicata</i>	4.8444	1.4272	0.4364	1.1152	7.8233
7	<i>Phoebe paniculata</i>	4.6264	1.3027	0.5037	1.1617	7.5945
8	<i>Vitex peduncularis</i>	3.6057	1.0205	0.3847	0.8973	5.9082
9	<i>Glochidion sphaerogynum</i>	1.1054	0.2815	0.1847	0.3380	1.9096
10	<i>Ampelocissus martinii</i>	1.0732	0.2845	0.1509	0.3033	1.8119
11	<i>Musa acuminata</i>	1.0414	0.2559	0.2071	0.3433	1.8477
12	<i>Eriolaena candollei</i>	1.0846	0.3067	0.1143	0.2693	1.7749
13	<i>Phoebe cathia</i>	0.8072	0.2224	0.0992	0.2126	1.3415
14	<i>Lindera metcalfiana</i>	0.4817	0.1202	0.1054	0.1597	0.8670
15	<i>Glochidion acuminatum</i>	0.3543	0.0676	0.2068	0.1915	0.8201
16	<i>Glochidion hirsutum</i>	0.3701	0.0911	0.0716	0.1209	0.6538
17	<i>Melastoma sanguineum</i>	0.0875	0.0171	0.0471	0.0455	0.1971
18	<i>Saurauia roxburghii</i>	0.0553	0.0118	0.0199	0.0240	0.1109
19	<i>Eurya nitida</i>	0.0534	0.0111	0.0220	0.0246	0.1110
20	<i>Litsea cubeba</i>	0.0479	0.0095	0.0241	0.0240	0.1056
21	<i>Litsea monopetala</i>	0.0440	0.0094	0.0158	0.0191	0.0883
22	<i>Archidendron clypearia</i>	0.0243	0.0050	0.0101	0.0112	0.0507
23	<i>Trichilla connaroides</i>	0.0212	0.0042	0.0111	0.0109	0.0474
24	<i>Rauvolfia cambodiana</i>	0.0175	0.0033	0.0104	0.0095	0.0407
25	<i>Blumea balsamifera</i>	0.0125	0.0023	0.0089	0.0074	0.0311
26	<i>Ficus callosa</i>	0.0139	0.0030	0.0048	0.0059	0.0276
27	<i>Pyrenaria diospyricarpa</i>	0.0116	0.0022	0.0067	0.0063	0.0269
28	<i>Colona flagrocarpa</i>	0.0078	0.0014	0.0051	0.0044	0.0188
29	<i>Viburnum sambucinum</i>	0.0028	0.0005	0.0018	0.0016	0.0066
30	<i>Mussaenda sanderiana</i>	0.0019	0.0004	0.0014	0.0011	0.0048
31	<i>Diospyros glandulosa</i>	0.0017	0.0003	0.0010	0.0009	0.0039
32	<i>Artocarpus lacucha</i>	0.0017	0.0003	0.0010	0.0009	0.0039
33	<i>Micromelum minutum</i>	0.0012	0.0002	0.0008	0.0007	0.0029
	Total	133	56	43	146	378

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				Total
		Stem	Branch	Leaf	Root	
	17 year-old pine plantation					
1	<i>Pinus kesiya</i>	15.4927	7.1643	7.2461	26.7399	56.6431
2	<i>Schima wallichii</i>	41.0407	11.9180	4.0146	9.7666	66.7399
3	<i>Myrica esculenta</i>	34.1810	10.1962	2.9728	7.7127	55.0627
4	<i>Engelhardtia spicata</i>	28.7354	8.5796	2.7206	6.6161	46.6517
5	<i>Castanopsis diversifolia</i>	27.2557	8.1243	2.3998	6.1701	43.9499
6	<i>Quercus semiserrata</i>	26.8037	9.2787	1.1850	4.4743	41.7418
7	<i>Helicia terminalis</i>	22.1483	6.0582	2.7893	5.9211	36.9170
8	<i>Castanopsis acuminatissima</i>	17.4365	5.8012	0.9424	3.1669	27.3471
9	<i>Phoebe cathia</i>	15.6352	5.2131	0.8315	2.8216	24.5014
10	<i>Wendlandia tinctoria</i>	14.0920	3.8445	1.8230	3.8025	23.5621
11	<i>Syzygium albiflorum</i>	12.4481	3.7297	1.0299	2.7638	19.9715
12	<i>Elaeocarpus sphaericus</i>	10.7080	3.2606	0.8460	2.3151	17.1297
13	<i>Phyllanthus emblica</i>	8.8460	2.1823	1.7291	2.8932	15.6506
14	<i>Glochidion sphaerogynum</i>	5.1427	1.2988	0.9215	1.6118	8.9747
15	<i>Beilschmiedia gammieana</i>	4.7627	1.3482	0.5165	1.1889	7.8163
16	<i>Diospyros glandulosa</i>	4.2740	1.1054	0.7017	1.2816	7.3627
17	<i>Artocarpus lacucha</i>	4.3928	1.3566	0.3178	0.9179	6.9851
18	<i>Albizia chinensis</i>	3.4223	1.0407	0.2638	0.7368	5.4636
19	<i>Heterophragma sulfureum</i>	2.4730	0.6807	0.3025	0.6523	4.1085
20	<i>Trichilla connaroides</i>	1.7718	0.4719	0.2578	0.5024	3.0038
21	<i>Lithocarpus sp.</i>	1.6916	0.4518	0.2287	0.4702	2.8423
22	<i>Eurya nitida</i>	1.5131	0.3881	0.2495	0.4580	2.6086
23	<i>Albizia odoratissima</i>	1.4979	0.4267	0.1601	0.3699	2.4547
24	<i>Eriolaena candollei</i>	1.2806	0.3416	0.1769	0.3582	2.1573
25	<i>Dillenia aurea</i>	1.2664	0.3595	0.1360	0.3142	2.0760
26	<i>Phoebe paniculata</i>	1.1039	0.2950	0.1528	0.3082	1.8599
27	<i>Archidendron clypearia</i>	1.0008	0.2598	0.1583	0.2965	1.7153
28	<i>Garuga pinnata</i>	1.0023	0.2746	0.1234	0.2661	1.6664
29	<i>Ternstroemia gymnanthera</i>	0.9445	0.2563	0.1213	0.2555	1.5776
30	<i>Erythrina subumbrans</i>	0.8155	0.2265	0.0929	0.2097	1.3446
31	<i>Litsea glutinosa</i>	0.6778	0.1668	0.1342	0.2228	1.2017
32	<i>Helicia nilagirica</i>	0.6987	0.1922	0.0830	0.1832	1.1571
33	<i>Glochidion acuminatum</i>	0.5000	0.1042	0.2266	0.2352	1.0660
34	<i>Symplocos sp.</i>	0.4650	0.1174	0.0808	0.1446	0.8078
35	<i>Memecylon celastrinum</i>	0.4026	0.0941	0.1009	0.1469	0.7446
36	<i>Pyrenaria diospyricarpa</i>	0.3924	0.0880	0.1189	0.1557	0.7550
37	<i>Kydia calycina</i>	0.4133	0.1100	0.0566	0.1157	0.6956
38	<i>Glochidion hirsutum</i>	0.3543	0.0846	0.0777	0.1228	0.6394
39	<i>Melastoma sanguineum</i>	0.3092	0.0612	0.1577	0.1564	0.6845
40	<i>Arytera littoralis</i>	0.2727	0.0623	0.0828	0.1065	0.5243
41	<i>Rhus succedanea</i>	0.2853	0.0711	0.0519	0.0909	0.4993
42	<i>Cinnamomum iners</i>	0.2522	0.0619	0.0510	0.0836	0.4487
43	<i>Docynia indica</i>	0.2161	0.0516	0.0472	0.0747	0.3897
44	<i>Ampelocissus martinii</i>	0.2196	0.0549	0.0404	0.0699	0.3848
45	<i>Sapindus rarak</i>	0.1159	0.0276	0.0260	0.0405	0.2100
46	<i>Blumea balsamifera</i>	0.1006	0.0198	0.0527	0.0514	0.2245
47	<i>Carallia brachiata</i>	0.1008	0.0245	0.0203	0.0336	0.1793
48	<i>Xanthophyllum virens</i>	0.0775	0.0185	0.0167	0.0267	0.1394
49	<i>Lindera metcalfiana</i>	0.0571	0.0125	0.0194	0.0238	0.1127
50	<i>Litsea sp.</i>	0.0341	0.0071	0.0139	0.0157	0.0708
51	<i>Alstonia scholaris</i>	0.0331	0.0069	0.0133	0.0151	0.0685
52	<i>Symplocos henschelii</i>	0.0314	0.0069	0.0104	0.0130	0.0616
53	<i>Ilex umbellulata</i>	0.0236	0.0052	0.0070	0.0094	0.0453
54	<i>Catunaregam tomentosa</i>	0.0163	0.0034	0.0064	0.0074	0.0334
55	<i>Anneslea fragrans</i>	0.0109	0.0023	0.0040	0.0048	0.0221
56	<i>Saurauia roxburghii</i>	0.0073	0.0015	0.0030	0.0034	0.0151
57	<i>Spondias bipinnata</i>	0.0046	0.0009	0.0022	0.0023	0.0100
58	<i>Rhus javanica</i>	0.0046	0.0009	0.0021	0.0022	0.0099
59	<i>Viburnum sambucinum</i>	0.0034	0.0007	0.0017	0.0017	0.0075
60	<i>Euodia roxburghiana</i>	0.0028	0.0005	0.0020	0.0017	0.0069
61	<i>Quercus brandisiana</i>	0.0008	0.0002	0.0006	0.0005	0.0021
	Total	319	97	37	98	551

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>18 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	59.0131	29.3393	27.5529	99.3743	215.2796
2	<i>Castanopsis purpurea</i>	42.3184	12.1510	4.3908	10.3256	69.1858
3	<i>Schima wallichii</i>	20.7232	6.1639	1.8766	4.7327	33.4964
4	<i>Eriolaena candollei</i>	19.9996	5.9872	1.7333	4.4953	32.2154
5	<i>Castanopsis acuminatissima</i>	18.7713	5.5116	1.7257	4.3554	30.3640
6	<i>Quercus vestita</i>	17.9639	4.9812	2.1304	4.6737	29.7492
7	<i>Castanopsis diversifolia</i>	17.2427	4.9465	1.7983	4.2148	28.2024
8	<i>Wendlandia tinctoria</i>	15.6839	3.9967	2.6752	4.8190	27.1748
9	<i>Glochidion sphaerogynum</i>	15.2435	4.2071	1.8641	4.0126	25.3273
10	<i>Dalbergia assamica</i>	11.8283	3.1860	1.7317	3.3341	20.0800
11	<i>Acacia megaladena</i>	10.8240	3.5395	0.6100	2.0201	16.9936
12	<i>Ternstroemia gymnanthera</i>	5.8448	1.5879	0.7433	1.5758	9.7517
13	<i>Archidendron clypearia</i>	5.5138	1.5591	0.5885	1.3734	9.0347
14	<i>Albizia odoratissima</i>	5.0509	1.5548	0.3779	1.0669	8.0506
15	<i>Phoebe lanceolata</i>	4.7824	1.3645	0.4941	1.1716	7.8127
16	<i>Ficus ribes</i>	4.6282	1.3767	0.3937	1.0414	7.4400
17	<i>Castanopsis tribuloides</i>	4.5369	1.3467	0.3890	1.0248	7.2975
18	<i>Helicia terminalis</i>	3.7234	1.0477	0.4072	0.9370	6.1154
19	<i>Lithocarpus sootepensis</i>	3.6318	0.9971	0.4383	0.9576	6.0247
20	<i>Erythrina subumbrans</i>	2.8021	0.8123	0.2683	0.6644	4.5471
21	<i>Syzygium cumini</i>	2.7819	0.7835	0.3005	0.6975	4.5633
22	<i>Eurya nitida</i>	2.6021	0.6902	0.3662	0.7350	4.3935
23	<i>Syzygium albiflorum</i>	2.4955	0.6489	0.3965	0.7398	4.2806
24	<i>Phyllanthus emblica</i>	2.3752	0.5921	0.4414	0.7601	4.1689
25	<i>Diospyros glandulosa</i>	2.3432	0.6292	0.3142	0.6470	3.9337
26	<i>Stereospermum neuranthum</i>	1.9299	0.5358	0.2240	0.4990	3.1887
27	<i>Protium serratum</i>	1.8323	0.5135	0.2012	0.4633	3.0103
28	<i>Aporosa villosa</i>	1.7538	0.4405	0.3172	0.5537	3.0652
29	<i>Elaeocarpus sphaericus</i>	1.5774	0.4568	0.1501	0.3738	2.5581
30	<i>Engelhardtia spicata</i>	1.5709	0.4548	0.1497	0.3725	2.5478
31	<i>Gluta obovata</i>	1.3582	0.3542	0.2065	0.3971	2.3161
32	<i>Magnolia henryi</i>	1.1297	0.3094	0.1382	0.2996	1.8768
33	<i>Dillenia aurea</i>	1.1213	0.3075	0.1401	0.2982	1.8672
34	<i>Pterospermum acerifolium</i>	1.0980	0.3108	0.1153	0.2722	1.7963
35	<i>Symplocos sp.</i>	1.0359	0.2813	0.1311	0.2791	1.7274
36	<i>Anneslea fragrans</i>	0.7596	0.2100	0.0882	0.1971	1.2549
37	<i>Dolichandrone serrulata</i>	0.6194	0.1594	0.0991	0.1856	1.0635
38	<i>Docynia indica</i>	0.6238	0.1704	0.0764	0.1659	1.0364
39	<i>Callicarpa arborea</i>	0.3869	0.1000	0.0613	0.1152	0.6634
40	<i>Gmelina arborea</i>	0.3532	0.0930	0.0505	0.1008	0.5975
41	<i>Colona flagrocarpa</i>	0.2358	0.0606	0.0376	0.0707	0.4047
42	<i>Helicia nilagirica</i>	0.2116	0.0540	0.0348	0.0643	0.3647
43	<i>Vaccinium sprengelii</i>	0.1601	0.0388	0.0334	0.0541	0.2864
44	<i>Symplocos racemosa</i>	0.1439	0.0343	0.0317	0.0500	0.2599
45	<i>Schoepfia fragrans</i>	0.1410	0.0351	0.0259	0.0451	0.2470
46	<i>Styrax benzoides</i>	0.0497	0.0116	0.0121	0.0181	0.0914
	Total	321	104	56	165	646

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>19 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	74.4960	35.3530	34.8196	127.3613	272.0298
2	<i>Castanopsis diversifolia</i>	37.6615	10.8332	3.8364	9.1318	61.4629
3	<i>Eriolaena candollei</i>	25.4763	7.4313	2.4722	6.0283	41.4080
4	<i>Castanopsis purpurea</i>	25.5837	8.1873	1.7571	5.1085	40.6365
5	<i>Albizia chinensis</i>	16.7757	4.9001	1.5647	3.9251	27.1655
6	<i>Wendlandia tinctoria</i>	14.4038	3.8798	2.0096	4.0072	24.3005
7	<i>Ternstroemia gymnanthera</i>	9.4265	2.9011	0.7137	1.9969	15.0382
8	<i>Gluta obovata</i>	6.8703	2.1830	0.4382	1.3566	10.8481
9	<i>Ficus ribes</i>	6.6136	1.8592	0.7272	1.6686	10.8685
10	<i>Schima wallichii</i>	6.3384	1.8767	0.5506	1.4396	10.2053
11	<i>Markhamia stipulata</i>	4.9376	1.4476	0.4501	1.1449	7.9802
12	<i>Syzygium cumini</i>	4.5657	1.3332	0.4237	1.0671	7.3897
13	<i>Phyllanthus emblica</i>	3.2278	0.8308	0.5239	0.9704	5.5530
14	<i>Dolichandrone serrulata</i>	2.9426	0.8153	0.3459	0.7645	4.8683
15	<i>Castanopsis acuminatissima</i>	2.8187	0.8467	0.2291	0.6216	4.5161
16	<i>Protium serratum</i>	2.7050	0.7525	0.3101	0.6959	4.4635
17	<i>Acacia megaladena</i>	2.3662	0.6616	0.2648	0.6024	3.8950
18	<i>Phoebe lanceolata</i>	2.1638	0.6305	0.2052	0.5092	3.5087
19	<i>Glochidion sphaerogynum</i>	2.0657	0.5344	0.3227	0.6125	3.5353
20	<i>Litsea monopetala</i>	1.7000	0.4946	0.1585	0.3992	2.7523
21	<i>Phoebe paniculata</i>	1.3429	0.3719	0.1567	0.3485	2.2201
22	<i>Elaeocarpus sphaericus</i>	1.1434	0.3244	0.1188	0.2820	1.8686
23	<i>Adinandra integerrima</i>	0.9242	0.2346	0.1573	0.2846	1.6007
24	<i>Albizia odoratissima</i>	0.6663	0.1827	0.0802	0.1757	1.1049
25	<i>Horsfieldia tomentosa</i>	0.4261	0.1050	0.0822	0.1391	0.7524
26	<i>Dalbergia velutina</i>	0.3988	0.1059	0.0552	0.1121	0.6719
27	<i>Xanthophyllum virens</i>	0.3886	0.1003	0.0619	0.1160	0.6667
28	<i>Stereospermum neuranthum</i>	0.3189	0.0835	0.0469	0.0921	0.5414
29	<i>Holarrhena pubescens</i>	0.2742	0.0696	0.0477	0.0848	0.4763
30	<i>Dillenia indica</i>	0.2701	0.0691	0.0448	0.0820	0.4660
31	<i>Pterospermum acerifolium</i>	0.2515	0.0649	0.0394	0.0748	0.4306
32	<i>Aporosa wallichii</i>	0.2084	0.0524	0.0374	0.0656	0.3638
33	<i>Helicia nilagirica</i>	0.1776	0.0448	0.0306	0.0552	0.3082
34	<i>Engelhardtia spicata</i>	0.0944	0.0219	0.0233	0.0346	0.1742
35	<i>Vaccinium sprengelii</i>	0.0581	0.0137	0.0136	0.0207	0.1060
36	<i>Syzygium albiflorum</i>	0.0400	0.0092	0.0103	0.0150	0.0745
37	<i>Cinnamomum iners</i>	0.0089	0.0019	0.0035	0.0040	0.0183
38	<i>Arytera littoralis</i>	0.0068	0.0013	0.0038	0.0036	0.0155
	Total	260	90	53	171	574

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>20 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	83.5436	39.9369	39.0414	142.4596	304.9814
2	<i>Bauhinia variegata</i>	16.0564	4.6363	1.6145	3.8671	26.1743
3	<i>Eriolaena candollei</i>	13.8460	4.0344	1.3151	3.2609	22.4564
4	<i>Syzygium albiflorum</i>	3.3561	0.9705	0.3273	0.8007	5.4545
5	<i>Castanopsis diversifolia</i>	2.2867	0.6335	0.2708	0.5952	3.7861
6	<i>Glochidion sphaerogynum</i>	2.2177	0.6561	0.1924	0.5038	3.5700
7	<i>Phyllanthus emblica</i>	1.5005	0.4047	0.1944	0.4092	2.5087
8	<i>Dolichandrone serrulata</i>	0.1333	0.0329	0.0256	0.0433	0.2351
9	<i>Syzygium cumini</i>	0.0637	0.0143	0.0186	0.0251	0.1217
10	<i>Arytera littoralis</i>	0.0528	0.0105	0.0260	0.0265	0.1158
11	<i>Aporosa villosa</i>	0.0400	0.0092	0.0103	0.0150	0.0745
12	<i>Wendlandia tinctoria</i>	0.0349	0.0079	0.0094	0.0133	0.0654
13	<i>Dillenia indica</i>	0.0304	0.0069	0.0085	0.0118	0.0576
14	<i>Litsea monopetala</i>	0.0228	0.0048	0.0086	0.0101	0.0464
15	<i>Phoebe paniculata</i>	0.0067	0.0014	0.0028	0.0031	0.0141
16	<i>Symplocos sp.</i>	0.0025	0.0005	0.0014	0.0013	0.0057
17	<i>Rhus javanica</i>	0.0017	0.0003	0.0010	0.0009	0.0039
	Total	123	51	43	152	370

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>21 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	86.3345	42.3344	40.3238	146.1468	315.1394
2	<i>Schima wallichii</i>	87.9659	26.7226	7.3317	19.3409	141.3611
3	<i>Castanopsis acuminatissima</i>	38.2144	11.5001	3.1324	8.4322	61.2791
4	<i>Anneslea fragrans</i>	37.3218	11.3854	2.9856	8.0810	59.7739
5	<i>Syzygium albiflorum</i>	27.6855	9.0038	1.9261	5.4381	44.0535
6	<i>Castanopsis diversifolia</i>	24.5835	7.9335	1.5179	4.7448	38.7797
7	<i>Lithocarpus elegans</i>	19.9621	6.0804	1.6079	4.3374	31.9879
8	<i>Wendlandia tinctoria</i>	15.1947	4.0422	2.2273	4.3262	25.7903
9	<i>Elaeocarpus sphaericus</i>	14.3342	4.1368	1.4803	3.4779	23.4293
10	<i>Myrica esculenta</i>	8.2706	2.5088	0.6530	1.7950	13.2273
11	<i>Buchanania lanzan</i>	7.9346	2.3225	0.7614	1.8647	12.8831
12	<i>Syzygium cumini</i>	5.7054	1.6241	0.6093	1.4122	9.3509
13	<i>Lithocarpus garrettianus</i>	5.4696	1.4762	0.7175	1.4953	9.1586
14	<i>Glochidion sphaerogynum</i>	4.9970	1.3256	0.7146	1.4171	8.4543
15	<i>Aporosa villosa</i>	3.4188	0.8821	0.5758	1.0362	5.9129
16	<i>Magnolia henryi</i>	3.3778	0.9904	0.3077	0.7831	5.4590
17	<i>Xanthophyllum virens</i>	2.4932	0.7431	0.2095	0.5583	4.0041
18	<i>Engelhardtia spicata</i>	2.0530	0.5287	0.3319	0.6162	3.5298
19	<i>Phoebe paniculata</i>	1.7885	0.4673	0.2689	0.5206	3.0452
20	<i>Albizia chinensis</i>	1.6966	0.4860	0.1732	0.4130	2.7689
21	<i>Symplocos sp.</i>	1.3668	0.3645	0.1872	0.3816	2.3001
22	<i>Engelhardtia serrata</i>	1.1604	0.3111	0.1557	0.3208	1.9480
23	<i>Dalbergia assamica</i>	1.1699	0.3295	0.1294	0.2947	1.9235
24	<i>Tristania rufescens</i>	0.8246	0.1990	0.1745	0.2806	1.4786
25	<i>Albizia odoratissima</i>	0.8097	0.2236	0.0963	0.2114	1.3410
26	<i>Phyllanthus emblica</i>	0.4848	0.1114	0.1270	0.1817	0.9049
27	<i>Diospyros glandulosa</i>	0.4805	0.1154	0.1025	0.1645	0.8629
28	<i>Holarrhena pubescens</i>	0.4682	0.1092	0.1149	0.1704	0.8627
29	<i>Styrax benzoides</i>	0.3433	0.0807	0.0817	0.1230	0.6288
30	<i>Gmelina arborea</i>	0.3220	0.0841	0.0485	0.0937	0.5482
31	<i>Vitex peduncularis</i>	0.2896	0.0679	0.0692	0.1041	0.5308
32	<i>Ampelocissus martinii</i>	0.2309	0.0552	0.0514	0.0803	0.4177
33	<i>Canarium subulatum</i>	0.1841	0.0437	0.0416	0.0647	0.3342
34	<i>Olea salicifolia</i>	0.1768	0.0420	0.0409	0.0624	0.3221
35	<i>Bombax anceps</i>	0.1791	0.0436	0.0365	0.0599	0.3191
36	<i>Eurya nitida</i>	0.1820	0.0460	0.0312	0.0564	0.3155
37	<i>Stereospermum neuranthum</i>	0.1625	0.0389	0.0360	0.0563	0.2936
38	<i>Canarium sp.</i>	0.0463	0.0107	0.0115	0.0170	0.0856
39	<i>Dalbergia foliacea</i>	0.0313	0.0071	0.0087	0.0121	0.0591
40	<i>Rapanea porteriiana</i>	0.0124	0.0024	0.0068	0.0065	0.0281
41	<i>Beilschmiedia gammieana</i>	0.0025	0.0005	0.0014	0.0013	0.0057
	Total	408	139	69	219	835

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	22 year-old pine plantation					
1	<i>Pinus kesiya</i>	56.8896	26.5252	26.6044	98.0362	208.0554
2	<i>Quercus brandisiana</i>	55.5318	16.0885	5.6355	13.3620	90.6178
3	<i>Quercus vestita</i>	26.6270	7.0328	3.8996	7.6256	45.1850
4	<i>Lithocarpus polystachyus</i>	23.4929	6.5447	2.7556	6.0709	38.8641
5	<i>Dalbergia cultrata</i>	17.4996	4.8769	2.0385	4.5114	28.9263
6	<i>Schima wallichii</i>	16.3920	4.6583	1.7146	4.0444	26.8093
7	<i>Wendlandia tinctoria</i>	13.8981	3.5384	2.3671	4.2707	24.0743
8	<i>Gluta obovata</i>	12.8888	3.8376	1.1756	2.9416	20.8436
9	<i>Lithocarpus elegans</i>	12.1457	3.2070	1.7730	3.4764	20.6020
10	<i>Tristania rufescens</i>	9.5438	2.5032	1.5913	2.8466	16.4849
11	<i>Lithocarpus sootepensis</i>	9.3594	2.4524	1.4291	2.7281	15.9690
12	<i>Castanopsis purpurea</i>	8.9857	2.3142	1.4533	2.6981	15.4514
13	<i>Ficus ribes</i>	7.3631	1.9914	0.9556	2.0036	12.3137
14	<i>Anneslea fragrans</i>	6.9744	1.8647	0.9752	1.9526	11.7670
15	<i>Erythrina subumbrans</i>	5.5752	1.7483	0.3764	1.1298	8.8297
16	<i>Litsea sp.</i>	5.4383	1.5818	0.5174	1.2838	8.8212
17	<i>Aporosa villosa</i>	4.6150	1.1246	0.9494	1.5458	8.2348
18	<i>Glochidion sphaerogynum</i>	4.1934	1.0572	0.7501	1.3161	7.3168
19	<i>Phyllanthus emblica</i>	4.0557	0.9682	0.9060	1.4122	7.3421
20	<i>Craibiodendron stellatum</i>	2.9815	0.7515	0.5385	0.9377	5.2091
21	<i>Temstroemia gymnanthera</i>	3.0218	0.7913	0.4611	0.8810	5.1552
22	<i>Vaccinium sprengelii</i>	2.3029	0.5513	0.5076	0.7971	4.1590
23	<i>Shorea roxburghii</i>	2.2091	0.5642	0.3782	0.6779	3.8293
24	<i>Syzygium cumini</i>	1.9556	0.4943	0.3515	0.6131	3.4145
25	<i>Semecarpus albescens</i>	1.8496	0.5212	0.2086	0.4681	3.0475
26	<i>Ilex umbellulata</i>	1.6660	0.4641	0.1877	0.4263	2.7441
27	<i>Dalbergia assamica</i>	1.5819	0.4235	0.2133	0.4385	2.6573
28	<i>Eriolaena candollei</i>	1.5015	0.4334	0.1448	0.3580	2.4378
29	<i>Glochidion hirsutum</i>	1.2954	0.2966	0.3457	0.4893	2.4271
30	<i>Engelhardtia serrata</i>	1.2847	0.3169	0.2487	0.4193	2.2696
31	<i>Castanopsis diversifolia</i>	1.3201	0.3577	0.1701	0.3579	2.2058
32	<i>Canarium subulatum</i>	1.0313	0.2907	0.1102	0.2577	1.6899
33	<i>Diospyros glandulosa</i>	1.0154	0.2860	0.1089	0.2542	1.6644
34	<i>Pterospermum acerifolium</i>	0.9704	0.2663	0.1200	0.2573	1.6140
35	<i>Gardenia sootepensis</i>	0.8920	0.2243	0.1571	0.2795	1.5529
36	<i>Spondias bipinnata</i>	0.7134	0.1898	0.0989	0.2003	1.2024
37	<i>Stereospermum neuranthum</i>	0.7111	0.1902	0.0970	0.1979	1.1962
38	<i>Syzygium albiflorum</i>	0.4060	0.1057	0.0625	0.1192	0.6934
39	<i>Viburnum sambucinum</i>	0.4025	0.1025	0.0669	0.1230	0.6948
40	<i>Celastrus paniculata</i>	0.3612	0.0874	0.0746	0.1218	0.6450
41	<i>Lithocarpus lindleyanus</i>	0.3555	0.0889	0.0655	0.1131	0.6230
42	<i>Pavetta tomentosa</i>	0.3305	0.0765	0.0841	0.1222	0.6132
43	<i>Eurya nitida</i>	0.3276	0.0859	0.0478	0.0944	0.5556
44	<i>Vitex peduncularis</i>	0.3173	0.0830	0.0467	0.0917	0.5388
45	<i>Dillenia aurea</i>	0.2711	0.0700	0.0430	0.0808	0.4650
46	<i>Quercus semiserrata</i>	0.2618	0.0632	0.0546	0.0887	0.4683
47	<i>Antidesma acidum</i>	0.2149	0.0476	0.0663	0.0866	0.4154
48	<i>Symplocos racemosa</i>	0.1678	0.0422	0.0294	0.0525	0.2919
49	<i>Dolichandrone serrulata</i>	0.1633	0.0410	0.0288	0.0513	0.2844
50	<i>Beilschmiedia gammieana</i>	0.1594	0.0399	0.0283	0.0502	0.2778
51	<i>Ampelocissus martinii</i>	0.1531	0.0383	0.0275	0.0485	0.2673
52	<i>Engelhardtia spicata</i>	0.1083	0.0257	0.0247	0.0381	0.1967
53	<i>Helicia nilagirica</i>	0.0986	0.0240	0.0199	0.0330	0.1754
54	<i>Gluta usitata</i>	0.0830	0.0193	0.0205	0.0303	0.1532
55	<i>Catunaregam tomentosa</i>	0.0810	0.0194	0.0173	0.0277	0.1454
56	<i>Terminalia chebula</i>	0.0774	0.0174	0.0220	0.0302	0.1471
57	<i>Phoebe lanceolata</i>	0.0567	0.0133	0.0133	0.0203	0.1037
58	<i>Vangueria pubescens</i>	0.0443	0.0100	0.0124	0.0171	0.0838
59	<i>Antidesma sp.</i>	0.0303	0.0065	0.0110	0.0132	0.0609
60	<i>Xantolis cambodiana</i>	0.0154	0.0033	0.0052	0.0065	0.0304
61	<i>Smilax ovalifolia</i>	0.0066	0.0014	0.0028	0.0031	0.0138
	Total	334	102	63	173	673

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>23 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	44.7385	21.3675	20.9131	76.6875	163.7065
2	<i>Quercus vestita</i>	81.1862	24.2651	7.2395	18.3913	131.0821
3	<i>Lithocarpus polystachyus</i>	52.5405	15.4653	4.9556	12.2400	85.2013
4	<i>Schima wallichii</i>	19.3647	5.7145	1.7385	4.4466	31.2642
5	<i>Lithocarpus sootepensis</i>	11.7416	3.4052	1.2170	2.8353	19.1990
6	<i>Lithocarpus elegans</i>	8.5955	2.3698	1.0602	2.2697	14.2951
7	<i>Quercus kingiana</i>	8.0128	2.1106	1.1861	2.3060	13.6154
8	<i>Tristania rufescens</i>	6.4691	1.6298	1.2335	2.0661	11.3985
9	<i>Phyllanthus emblica</i>	5.5215	1.4150	0.9514	1.6914	9.5792
10	<i>Castanopsis purpurea</i>	5.6332	1.5981	0.6083	1.4021	9.2417
11	<i>Protium serratum</i>	5.3726	1.5886	0.4729	1.2255	8.6596
12	<i>Stereospermum neuranthum</i>	4.7286	1.4675	0.3338	0.9780	7.5079
13	<i>Dalbergia assamica</i>	4.3895	1.1576	0.6408	1.2575	7.4453
14	<i>Albizia odoratissima</i>	4.5272	1.3695	0.3759	0.9959	7.2686
15	<i>Craibiodendron stellatum</i>	3.6338	0.9340	0.6462	1.1188	6.3327
16	<i>Vaccinium sprengelii</i>	3.2030	0.7807	0.6826	1.0829	5.7491
17	<i>Lithocarpus fenestratus</i>	3.0350	0.8180	0.4081	0.8354	5.0965
18	<i>Styrax benzoides</i>	1.8457	0.4849	0.2711	0.5315	3.1332
19	<i>Aporosa villosa</i>	1.8020	0.4518	0.3350	0.5737	3.1626
20	<i>Dillenia aurea</i>	1.8778	0.5498	0.1704	0.4355	3.0335
21	<i>Anneslea fragrans</i>	1.3294	0.3435	0.2139	0.3974	2.2843
22	<i>Clausena wallichii</i>	1.2773	0.3409	0.1730	0.3555	2.1467
23	<i>Wendlandia tinctoria</i>	1.1486	0.2835	0.2231	0.3749	2.0302
24	<i>Vangueria pubescens</i>	0.9903	0.2470	0.1799	0.3149	1.7321
25	<i>Syzygium cumini</i>	0.7297	0.1905	0.1102	0.2128	1.2432
26	<i>Castanopsis diversifolia</i>	0.6530	0.1730	0.0923	0.1849	1.1032
27	<i>Celastrus paniculata</i>	0.5253	0.1337	0.0884	0.1610	0.9084
28	<i>Gluta obovata</i>	0.4399	0.1043	0.1021	0.1556	0.8020
29	<i>Glochidion sphaerogynum</i>	0.4011	0.0950	0.0935	0.1422	0.7317
30	<i>Ziziphus oenoplia</i>	0.2494	0.0643	0.0392	0.0743	0.4271
31	<i>Glochidion hirsutum</i>	0.1848	0.0432	0.0453	0.0670	0.3404
32	<i>Symplocos racemosa</i>	0.1650	0.0405	0.0339	0.0549	0.2942
33	<i>Dalbergia foliacea</i>	0.1594	0.0399	0.0283	0.0502	0.2778
34	<i>Gluta usitata</i>	0.1462	0.0341	0.0362	0.0532	0.2697
35	<i>Dalbergia cultrata</i>	0.1420	0.0340	0.0309	0.0490	0.2560
36	<i>Flacourtia indica</i>	0.1304	0.0323	0.0244	0.0421	0.2292
37	<i>Cratoxylum sumatranum</i>	0.1247	0.0308	0.0237	0.0405	0.2196
38	<i>Colona flagrocarpa</i>	0.1068	0.0237	0.0323	0.0428	0.2056
39	<i>Ternstroemia gymnanthera</i>	0.1115	0.0273	0.0218	0.0367	0.1974
40	<i>Lithocarpus lindleyanus</i>	0.0957	0.0232	0.0195	0.0321	0.1706
41	<i>Antidesma acidum</i>	0.0607	0.0137	0.0173	0.0236	0.1154
42	<i>Dolichandrone serrulata</i>	0.0490	0.0109	0.0144	0.0194	0.0939
43	<i>Symplocos henschelii</i>	0.0419	0.0097	0.0107	0.0156	0.0779
44	<i>Semecarpus anacardium</i>	0.0355	0.0081	0.0095	0.0135	0.0666
45	<i>Cratoxylum formosum</i>	0.0349	0.0079	0.0094	0.0133	0.0654
46	<i>Terminalia chebula</i>	0.0255	0.0056	0.0081	0.0104	0.0495
47	<i>Catunaregam tomentosa</i>	0.0163	0.0035	0.0054	0.0068	0.0321
48	<i>Engelhardtia spicata</i>	0.0028	0.0006	0.0015	0.0015	0.0064
49	<i>Turpinia pomifera</i>	0.0025	0.0005	0.0014	0.0013	0.0057
50	<i>Syzygium albiflorum</i>	0.0025	0.0005	0.0014	0.0013	0.0057
	Total	288	91	47	136	562

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>24 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	55.1258	25.3832	25.7856	95.2830	201.5777
2	<i>Castanopsis diversifolia</i>	144.9269	49.6861	7.0228	24.9509	226.5867
3	<i>Schima wallichii</i>	48.7442	15.5474	3.3082	9.7356	77.3354
4	<i>Elaeocarpus sphaericus</i>	34.9110	11.1601	2.3021	6.9090	55.2821
5	<i>Sarcosperma arboreum</i>	23.8479	7.7276	1.4170	4.5466	37.5391
6	<i>Syzygium cumini</i>	23.5680	8.0946	1.0749	3.9938	36.7313
7	<i>Helicia terminalis</i>	12.6418	3.4659	1.5615	3.3566	21.0258
8	<i>Erythrina subumbrans</i>	10.6298	3.2670	0.7942	2.2488	16.9399
9	<i>Glochidion sphaerogynum</i>	9.1498	2.6921	0.8302	2.1125	14.7846
10	<i>Ternstroemia gymnanthera</i>	6.2234	1.8234	0.5685	1.4445	10.0598
11	<i>Betula alnoides</i>	6.1192	1.9302	0.4028	1.2258	9.6779
12	<i>Engelhardtia serrata</i>	5.0141	1.5063	0.4112	1.1082	8.0397
13	<i>Styrax benzoides</i>	4.1181	1.1468	0.4828	1.0642	6.8119
14	<i>Magnolia henryi</i>	3.5977	1.0974	0.2736	0.7697	5.7385
15	<i>Engelhardtia spicata</i>	3.5386	1.0783	0.2703	0.7587	5.6459
16	<i>Dalbergia assamica</i>	2.0721	0.5880	0.2169	0.5120	3.3889
17	<i>Eurya nitida</i>	1.5986	0.4318	0.2373	0.4481	2.7158
18	<i>Dalbergia foliacea</i>	0.8586	0.2232	0.1300	0.2515	1.4632
19	<i>Phyllanthus emblica</i>	0.7099	0.1870	0.1058	0.2045	1.2073
20	<i>Callicarpa arborea</i>	0.6368	0.1741	0.0776	0.1689	1.0573
21	<i>Gmelina arborea</i>	0.2987	0.0779	0.0447	0.0870	0.5082
22	<i>Dolichandrone serrulata</i>	0.2526	0.0652	0.0396	0.0751	0.4324
23	<i>Gluta obovata</i>	0.2479	0.0611	0.0471	0.0805	0.4366
24	<i>Helicia nilagirica</i>	0.1996	0.0507	0.0333	0.0611	0.3448
25	<i>Stereospermum neuranthum</i>	0.1733	0.0436	0.0301	0.0540	0.3010
26	<i>Anneslea fragrans</i>	0.1655	0.0416	0.0291	0.0519	0.2881
27	<i>Wendlandia tinctoria</i>	0.1569	0.0364	0.0393	0.0576	0.2902
28	<i>Syzygium albiflorum</i>	0.1481	0.0356	0.0318	0.0508	0.2662
29	<i>Phoebe paniculata</i>	0.1414	0.0329	0.0363	0.0520	0.2626
30	<i>Holarrhena pubescens</i>	0.0990	0.0241	0.0200	0.0331	0.1761
31	<i>Diospyros glandulosa</i>	0.0603	0.0142	0.0139	0.0214	0.1099
32	<i>Turpinia pomifera</i>	0.0497	0.0116	0.0121	0.0181	0.0914
33	<i>Archidendron clypearia</i>	0.0349	0.0070	0.0162	0.0170	0.0751
34	<i>Pavetta tomentosa</i>	0.0167	0.0034	0.0072	0.0079	0.0351
35	<i>Symplocos sp.</i>	0.0067	0.0014	0.0028	0.0031	0.0141
36	<i>Melastoma sanguineum</i>	0.0047	0.0009	0.0031	0.0026	0.0112
37	<i>Rhus javanica</i>	0.0038	0.0007	0.0022	0.0021	0.0088
38	<i>Morinda tomentosa</i>	0.0032	0.0006	0.0022	0.0019	0.0078
39	<i>Pittosporum nepaulense</i>	0.0031	0.0006	0.0016	0.0016	0.0068
40	<i>Albizia odoratissima</i>	0.0029	0.0005	0.0018	0.0016	0.0068
41	<i>Olea salicifolia</i>	0.0025	0.0005	0.0014	0.0013	0.0057
42	<i>Canarium subulatum</i>	0.0021	0.0004	0.0012	0.0011	0.0047
43	<i>Vernonia volkameriifolia</i>	0.0017	0.0003	0.0010	0.0009	0.0039
44	<i>Acacia megaladena</i>	0.0016	0.0003	0.0010	0.0009	0.0038
45	<i>Lindera metcalfiana</i>	0.0009	0.0002	0.0007	0.0006	0.0023
46	<i>Litsea cubeba</i>	0.0005	0.0001	0.0004	0.0003	0.0012
	Total	400	138	48	162	747

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	25 year-old pine plantation					
1	<i>Pinus kesiya</i>	71.8476	33.6312	33.5958	123.6120	262.6866
2	<i>Schima wallichii</i>	51.4634	15.4557	4.4390	11.5232	82.8812
3	<i>Castanopsis diversifolia</i>	29.5046	8.9836	2.3977	6.4259	47.3118
4	<i>Syzygium albiflorum</i>	27.8343	9.5435	1.3557	4.7863	43.5197
5	<i>Castanopsis purpurea</i>	18.9526	6.3572	0.9786	3.3809	29.6692
6	<i>Anneslea fragrans</i>	14.1973	4.1577	1.3752	3.3435	23.0737
7	<i>Castanopsis acuminatissima</i>	12.7573	3.8646	1.0005	2.7676	20.3900
8	<i>Wendlandia tinctoria</i>	7.6072	1.8963	1.4046	2.4305	13.3386
9	<i>Helicia nilagirica</i>	5.2725	1.4247	0.7045	1.4466	8.8482
10	<i>Ternstroemia gymnanthera</i>	4.8630	1.3463	0.5770	1.2669	8.0532
11	<i>Glochidion sphaerogynum</i>	4.7592	1.3434	0.5177	1.1927	7.8130
12	<i>Styrax benzoides</i>	3.8100	1.0022	0.5619	1.0972	6.4713
13	<i>Betula alnoides</i>	3.1862	0.9645	0.2504	0.6921	5.0932
14	<i>Gluta obovata</i>	2.7523	0.7063	0.4538	0.8330	4.7454
15	<i>Ficus ribes</i>	2.5514	0.7027	0.3091	0.6715	4.2346
16	<i>Engelhardtia serrata</i>	2.4323	0.6830	0.2672	0.6140	3.9965
17	<i>Lithocarpus sootepensis</i>	2.1029	0.5755	0.2632	0.5608	3.5024
18	<i>Diospyros glandulosa</i>	1.9057	0.5251	0.2270	0.4993	3.1571
19	<i>Callicarpa arborea</i>	1.7760	0.5181	0.1637	0.4148	2.8726
20	<i>Engelhardtia spicata</i>	1.3187	0.3461	0.1978	0.3821	2.2446
21	<i>Tristania rufescens</i>	1.2683	0.3227	0.2143	0.3892	2.1945
22	<i>Dalbergia foliacea</i>	0.8220	0.2086	0.1395	0.2531	1.4231
23	<i>Dalbergia assamica</i>	0.7473	0.1981	0.1044	0.2108	1.2606
24	<i>Dillenia aurea</i>	0.6228	0.1701	0.0763	0.1656	1.0349
25	<i>Phyllanthus emblica</i>	0.4920	0.1201	0.0984	0.1633	0.8739
26	<i>Magnolia henryi</i>	0.4776	0.1282	0.0629	0.1313	0.8000
27	<i>Phoebe paniculata</i>	0.4360	0.1135	0.0671	0.1281	0.7447
28	<i>Phoebe cathia</i>	0.3914	0.1038	0.0544	0.1103	0.6600
29	<i>Eurya nitida</i>	0.3189	0.0835	0.0469	0.0921	0.5414
30	<i>Gluta usitata</i>	0.2886	0.0716	0.0549	0.0932	0.5083
31	<i>Symplocos sp.</i>	0.1655	0.0416	0.0291	0.0519	0.2881
32	<i>Dolichandrone serrulata</i>	0.0659	0.0156	0.0149	0.0232	0.1196
33	<i>Elaeocarpus sphaericus</i>	0.0516	0.0119	0.0134	0.0192	0.0961
34	<i>Aporosa villosa</i>	0.0447	0.0103	0.0112	0.0165	0.0828
35	<i>Olea salicifolia</i>	0.0107	0.0023	0.0040	0.0047	0.0216
36	<i>Acacia megaladena</i>	0.0028	0.0005	0.0018	0.0016	0.0066
37	<i>Archidendron clypearia</i>	0.0021	0.0004	0.0012	0.0011	0.0047
38	<i>Albizia odoratissima</i>	0.0017	0.0003	0.0010	0.0009	0.0039
39	<i>Pavetta tomentosa</i>	0.0012	0.0002	0.0008	0.0007	0.0030
	Total	277	96	52	170	595

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	26 year-old pine plantation					
1	<i>Pinus kesiya</i>	115.5240	61.2063	53.8589	190.6218	421.2110
2	<i>Schima wallichii</i>	114.5418	35.7622	8.4345	23.8110	182.5495
3	<i>Quercus semiserrata</i>	45.3976	16.2508	1.7323	7.0922	70.4728
4	<i>Castanopsis diversifolia</i>	44.6153	14.6916	2.6202	8.3447	70.2718
5	<i>Helicia nilagirica</i>	29.0217	9.4925	1.6488	5.4260	45.5891
6	<i>Syzygium albiflorum</i>	17.1385	5.6643	0.9759	3.1696	26.9483
7	<i>Ternstroemia gymnanthera</i>	15.8526	4.9522	1.1579	3.2804	25.2430
8	<i>Stereospermum neuranthum</i>	15.3224	5.1215	0.7856	2.7390	23.9686
9	<i>Syzygium cumini</i>	10.8811	3.5593	0.6124	2.0294	17.0822
10	<i>Castanopsis purpurea</i>	9.1168	2.9491	0.5384	1.7381	14.3424
11	<i>Dillenia aurea</i>	7.9351	2.5444	0.4866	1.5391	12.5052
12	<i>Phoebe paniculata</i>	7.5473	2.2763	0.6096	1.6556	12.0889
13	<i>Elaeocarpus sphaericus</i>	3.8439	1.1019	0.3835	0.9301	6.2595
14	<i>Engelhardtia spicata</i>	3.7727	1.0658	0.4065	0.9426	6.1876
15	<i>Toona ciliata</i>	3.4603	1.0529	0.2660	0.7439	5.5231
16	<i>Helicia terminalis</i>	2.7391	0.7449	0.3511	0.7393	4.5744
17	<i>Dalbergia assamica</i>	2.5610	0.6966	0.3338	0.6935	4.2848
18	<i>Lithocarpus elegans</i>	2.2546	0.6026	0.3106	0.6291	3.7970
19	<i>Castanopsis acuminatissima</i>	2.0940	0.5982	0.2143	0.5115	3.4180
20	<i>Quercus vestita</i>	1.0606	0.2856	0.1469	0.2941	1.7872
21	<i>Wendlandia tinctoria</i>	0.9190	0.2360	0.1471	0.2760	1.5782
22	<i>Myrica esculenta</i>	0.8068	0.2240	0.0922	0.2078	1.3308
23	<i>Albizia chinensis</i>	0.6816	0.1872	0.0815	0.1793	1.1296
24	<i>Glochidion sphaerogynum</i>	0.5989	0.1491	0.1110	0.1918	1.0508
25	<i>Styrax benzoides</i>	0.4958	0.1335	0.0646	0.1356	0.8295
26	<i>Vaccinium sprengelii</i>	0.3648	0.0915	0.0660	0.1154	0.6377
27	<i>Magnolia elegans</i>	0.1014	0.0244	0.0220	0.0348	0.1826
28	<i>Eurya nitida</i>	0.0860	0.0203	0.0201	0.0306	0.1570
29	<i>Terminalia chebula</i>	0.0498	0.0116	0.0121	0.0181	0.0917
30	<i>Aporosa villosa</i>	0.0097	0.0020	0.0037	0.0043	0.0197
31	<i>Acacia megaladena</i>	0.0011	0.0002	0.0008	0.0006	0.0027
	Total	459	172	76	258	965

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	27 year-old pine plantation					
1	<i>Pinus kesiya</i>	70.7777	36.0016	33.0298	118.4090	258.2181
2	<i>Schima wallichii</i>	181.2515	54.1235	15.5353	40.7118	291.6221
3	<i>Castanopsis diversifolia</i>	19.0420	5.6383	1.6917	4.3468	30.7188
4	<i>Glochidion sphaerogynum</i>	17.9525	5.1009	1.9380	4.4635	29.4548
5	<i>Phoebe paniculata</i>	16.9920	5.0069	1.5854	3.9355	27.5198
6	<i>Elaeocarpus sphaericus</i>	15.5902	4.5989	1.3913	3.5749	25.1554
7	<i>Dalbergia velutina</i>	12.1745	3.1634	1.8840	3.5860	20.8078
8	<i>Betula alnoides</i>	11.7497	3.6975	0.7815	2.3648	18.5935
9	<i>Buchanania lanzan</i>	10.9008	3.4214	0.7442	2.2119	17.2782
10	<i>Castanopsis purpurea</i>	10.0410	3.0120	0.8276	2.2247	16.1053
11	<i>Wendlandia tinctoria</i>	7.5068	2.0471	0.9613	2.0186	12.5337
12	<i>Lithocarpus elegans</i>	4.9073	1.3216	0.6587	1.3504	8.2381
13	<i>Syzygium albidiflorum</i>	4.0525	1.1605	0.4306	0.9952	6.6388
14	<i>Styrax benzoides</i>	2.5944	0.7350	0.2991	0.6549	4.2835
15	<i>Albizia odoratissima</i>	2.5914	0.7717	0.2240	0.5839	4.1710
16	<i>Eurya nitida</i>	2.2748	0.6453	0.2617	0.5726	3.7544
17	<i>Helicia terminalis</i>	2.0626	0.5547	0.2830	0.5718	3.4721
18	<i>Quercus brandisiana</i>	1.9900	0.5848	0.1778	0.4582	3.2108
19	<i>Symplocos racemosa</i>	1.8242	0.4993	0.2244	0.4844	3.0324
20	<i>Castanopsis acuminatissima</i>	1.7229	0.5017	0.1601	0.4039	2.7885
21	<i>Cleidion spiciflorum</i>	1.3665	0.3755	0.1631	0.3590	2.2641
22	<i>Symplocos sp.</i>	1.1097	0.2993	0.1478	0.3040	1.8609
23	<i>Lithocarpus fenestratus</i>	0.8862	0.2322	0.1307	0.2561	1.5052
24	<i>Colona flagrocarpa</i>	0.7356	0.2030	0.0862	0.1916	1.2164
25	<i>Memecylon edule</i>	0.6207	0.1593	0.1006	0.1870	1.0677
26	<i>Syzygium cumini</i>	0.5930	0.1613	0.0746	0.1592	0.9881
27	<i>Mallotus paniculatus</i>	0.4688	0.0928	0.2346	0.2358	1.0321
28	<i>Markhamia pierrei</i>	0.5075	0.1364	0.0679	0.1397	0.8515
29	<i>Engelhardtia spicata</i>	0.4100	0.1048	0.0671	0.1243	0.7061
30	<i>Lithocarpus garrettianus</i>	0.3256	0.0848	0.0501	0.0954	0.5559
31	<i>Semecarpus albescens</i>	0.3040	0.0793	0.0453	0.0884	0.5170
32	<i>Helicia nilagirica</i>	0.2882	0.0722	0.0516	0.0910	0.5031
33	<i>Neolitsea zeylanica</i>	0.1803	0.0359	0.0891	0.0898	0.3951
34	<i>Myrica esculenta</i>	0.1888	0.0459	0.0405	0.0640	0.3391
35	<i>Anneslea fragrans</i>	0.1753	0.0440	0.0313	0.0551	0.3057
36	<i>Phoebe lanceolata</i>	0.0607	0.0130	0.0245	0.0270	0.1253
37	<i>Catunaregam tomentosa</i>	0.0438	0.0081	0.0295	0.0253	0.1067
38	<i>Phyllanthus emblica</i>	0.0410	0.0089	0.0148	0.0176	0.0822
39	<i>Archidendron clypearia</i>	0.0305	0.0060	0.0161	0.0157	0.0682
40	<i>Artocarpus sp.</i>	0.0288	0.0060	0.0116	0.0131	0.0594
41	<i>Blumea balsamifera</i>	0.0161	0.0031	0.0091	0.0086	0.0368
42	<i>Memecylon celastrinum</i>	0.0156	0.0030	0.0090	0.0084	0.0360
43	<i>Cinnamomum iners</i>	0.0156	0.0030	0.0088	0.0083	0.0356
44	<i>Litsea cubeba</i>	0.0148	0.0029	0.0074	0.0074	0.0327
45	<i>Mussaenda sanderiana</i>	0.0128	0.0023	0.0090	0.0076	0.0317
46	<i>Turpinia cochinchinensis</i>	0.0117	0.0024	0.0050	0.0055	0.0245
47	<i>Vernonia volkameriifolia</i>	0.0097	0.0019	0.0049	0.0049	0.0214
48	<i>Diospyros glandulosa</i>	0.0086	0.0016	0.0053	0.0048	0.0203
49	<i>Euodia roxburghiana</i>	0.0081	0.0014	0.0065	0.0051	0.0210
50	<i>Melastoma sanguineum</i>	0.0072	0.0014	0.0043	0.0039	0.0167
51	<i>Milletia pachycarpa</i>	0.0068	0.0012	0.0049	0.0040	0.0170
52	<i>Ternstroemia gymnanthera</i>	0.0059	0.0012	0.0026	0.0028	0.0125
53	<i>Rhus javanica</i>	0.0050	0.0009	0.0032	0.0028	0.0119
54	<i>Glochidion arborescens</i>	0.0048	0.0009	0.0027	0.0025	0.0109
55	<i>Albizia chinensis</i>	0.0045	0.0008	0.0030	0.0026	0.0108
56	<i>Lindera metcalfiana</i>	0.0038	0.0007	0.0025	0.0022	0.0092
57	<i>Canthium sp.</i>	0.0035	0.0007	0.0018	0.0018	0.0077
58	<i>Kydia calycina</i>	0.0035	0.0007	0.0018	0.0018	0.0077
59	<i>Engelhardtia serrata</i>	0.0031	0.0006	0.0016	0.0016	0.0068
60	<i>Acacia megaladena</i>	0.0024	0.0004	0.0018	0.0015	0.0061
61	<i>Magnolia henryi</i>	0.0025	0.0005	0.0014	0.0013	0.0057
62	<i>Artocarpus lacucha</i>	0.0025	0.0005	0.0014	0.0013	0.0057
63	<i>Viburnum sambucinum</i>	0.0025	0.0005	0.0014	0.0013	0.0057
64	<i>Acacia pennata</i>	0.0022	0.0004	0.0018	0.0014	0.0057
65	<i>Syzygium sp.</i>	0.0020	0.0004	0.0014	0.0012	0.0048
66	<i>Antidesma acidum</i>	0.0020	0.0004	0.0012	0.0011	0.0047
67	<i>Craibiodendron stellatum</i>	0.0017	0.0003	0.0010	0.0009	0.0039
68	<i>Antiaris toxicaria</i>	0.0010	0.0002	0.0007	0.0006	0.0024
69	<i>Gluta obovata</i>	0.0009	0.0002	0.0007	0.0006	0.0023
70	<i>Ficus callosa</i>	0.0006	0.0001	0.0005	0.0004	0.0016
	Total	407	135	65	197	803

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	28 year-old pine plantation					
1	<i>Pinus kesiya</i>	80.6549	44.9955	37.5566	130.8321	294.0390
2	<i>Schinus molle</i>	77.4798	23.7655	5.8408	16.4569	123.5431
3	<i>Engelhardtia spicata</i>	9.1305	2.6642	0.8758	2.1524	14.8229
4	<i>Glochidion sphaerogynum</i>	8.1437	2.3459	0.8299	1.9714	13.2909
5	<i>Markhamia stipulata</i>	4.5123	1.2660	0.4946	1.1394	7.4123
6	<i>Castanopsis diversifolia</i>	4.3340	1.2546	0.4329	1.0389	7.0604
7	<i>Entada rheedii</i>	3.7808	1.1569	0.2837	0.8040	6.0254
8	<i>Colona flagrocarpa</i>	2.9159	0.8774	0.2362	0.6413	4.6708
9	<i>Stereospermum neuranthum</i>	1.8984	0.5369	0.2041	0.4734	3.1127
10	<i>Castanopsis purpurea</i>	1.8718	0.5479	0.1700	0.4343	3.0240
11	<i>Erythrina subumbrans</i>	0.7063	0.1846	0.1074	0.2059	1.2041
12	<i>Gmelina arborea</i>	0.6442	0.1639	0.1119	0.1988	1.1188
13	<i>Dalbergia foliacea</i>	0.4993	0.1251	0.0906	0.1581	0.8730
14	<i>Vaccinium sprengelii</i>	0.5061	0.1364	0.0656	0.1381	0.8462
15	<i>Dalbergia assamica</i>	0.4012	0.1024	0.0674	0.1225	0.6936
16	<i>Phyllanthus emblica</i>	0.3055	0.0757	0.0586	0.0990	0.5388
17	<i>Albizia odoratissima</i>	0.2987	0.0777	0.0455	0.0875	0.5095
18	<i>Syzygium albiflorum</i>	0.2792	0.0716	0.0464	0.0846	0.4817
19	<i>Litsea cubeba</i>	0.1961	0.0411	0.0767	0.0882	0.4022
20	<i>Ficus ribes</i>	0.1862	0.0436	0.0468	0.0679	0.3445
21	<i>Diospyros glandulosa</i>	0.0807	0.0174	0.0285	0.0345	0.1612
22	<i>Musa acuminata</i>	0.0506	0.0118	0.0123	0.0184	0.0931
23	<i>Archidendron clypearia</i>	0.0434	0.0096	0.0134	0.0175	0.0840
24	<i>Phoebe paniculata</i>	0.0329	0.0066	0.0149	0.0159	0.0703
25	<i>Wendlandia tinctoria</i>	0.0234	0.0047	0.0109	0.0114	0.0504
26	<i>Vernonia volkamerifolia</i>	0.0231	0.0047	0.0099	0.0109	0.0486
27	<i>Horsfieldia tomentosa</i>	0.0154	0.0033	0.0052	0.0065	0.0304
28	<i>Rhus javanica</i>	0.0134	0.0028	0.0056	0.0063	0.0281
29	<i>Phoebe lanceolata</i>	0.0089	0.0018	0.0042	0.0044	0.0193
30	<i>Acacia megaladena</i>	0.0036	0.0007	0.0018	0.0018	0.0080
31	<i>Eriolaena candollei</i>	0.0035	0.0007	0.0018	0.0018	0.0077
32	<i>Melastoma sanguineum</i>	0.0033	0.0006	0.0020	0.0018	0.0078
33	<i>Litsea monopetala</i>	0.0025	0.0005	0.0014	0.0013	0.0057
34	<i>Syzygium cumini</i>	0.0025	0.0005	0.0014	0.0013	0.0057
35	<i>Aporosa villosa</i>	0.0025	0.0005	0.0014	0.0013	0.0057
	Total	199	80	48	157	485

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	29 year-old pine plantation					
1	<i>Pinus kesiya</i>	45.0515	21.8668	21.0482	76.5984	164.5649
2	<i>Castanopsis purpurea</i>	39.1749	11.8669	3.3781	8.7059	63.1259
3	<i>Schima wallichii</i>	33.2916	10.2249	2.5668	7.0952	53.1786
4	<i>Helicia terminalis</i>	23.2654	6.6631	2.3877	5.6734	37.9895
5	<i>Anneslea fragrans</i>	14.5425	4.7174	0.8643	2.7695	22.8937
6	<i>Quercus vestita</i>	6.6602	1.9637	0.5964	1.5297	10.7499
7	<i>Castanopsis diversifolia</i>	5.8253	1.7989	0.4479	1.2327	9.3048
8	<i>Helicia nilagirica</i>	5.1538	1.5240	0.4738	1.1875	8.3392
9	<i>Toona ciliata</i>	4.1900	1.2367	0.3690	0.9574	6.7530
10	<i>Myrica esculenta</i>	3.7775	1.0506	0.4407	0.9758	6.2446
11	<i>Engelhardtia spicata</i>	3.1658	0.9360	0.2862	0.7265	5.1146
12	<i>Wendlandia tinctoria</i>	2.1387	0.5168	0.4498	0.7257	3.8310
13	<i>Eriolaena candollei</i>	2.1201	0.6087	0.2132	0.5133	3.4552
14	<i>Erythrina subumbrans</i>	2.0581	0.6061	0.1822	0.4719	3.3183
15	<i>Cycas pectinata</i>	1.2595	0.3355	0.1717	0.3516	2.1184
16	<i>Acacia megaladena</i>	0.7991	0.2156	0.1050	0.2186	1.3383
17	<i>Camellia pleurocarpa</i>	0.6498	0.1744	0.0877	0.1797	1.0917
18	<i>Phyllanthus emblica</i>	0.6162	0.1593	0.0997	0.1844	1.0596
19	<i>Ternstroemia gymnanthera</i>	0.5715	0.1552	0.0717	0.1536	0.9520
20	<i>Tadehagi triquetrum</i>	0.3979	0.1037	0.0609	0.1166	0.6792
21	<i>Lithocarpus elegans</i>	0.2674	0.0692	0.0412	0.0790	0.4569
22	<i>Dalbergia foliacea</i>	0.2180	0.0557	0.0355	0.0660	0.3753
23	<i>Morinda tomentosa</i>	0.1656	0.0416	0.0291	0.0519	0.2883
24	<i>Pterospermum acerifolium</i>	0.1465	0.0365	0.0266	0.0466	0.2563
25	<i>Glochidion sphaerogynum</i>	0.1035	0.0252	0.0207	0.0344	0.1838
26	<i>Blumea balsamifera</i>	0.0768	0.0165	0.0269	0.0328	0.1530
27	<i>Glochidion hirsutum</i>	0.0740	0.0177	0.0162	0.0256	0.1335
28	<i>Catunaregam tomentosa</i>	0.0452	0.0100	0.0135	0.0180	0.0867
29	<i>Antidesma acidum</i>	0.0446	0.0103	0.0112	0.0164	0.0825
30	<i>Melastoma sanguineum</i>	0.0230	0.0046	0.0109	0.0113	0.0497
31	<i>Litsea cubeba</i>	0.0036	0.0007	0.0018	0.0018	0.0080
32	<i>Syzygium cumini</i>	0.0013	0.0002	0.0009	0.0007	0.0031
	Total	196	67	35	111	408

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	30 year-old pine plantation					
1	<i>Pinus kesiya</i>	79.8944	43.7184	37.2208	130.5145	291.3482
2	<i>Castanopsis diversifolia</i>	86.0147	30.0744	4.0596	14.4356	134.5843
3	<i>Schima wallichii</i>	80.6807	23.6919	7.4133	18.7151	130.5009
4	<i>Castanopsis purpurea</i>	26.5292	8.1439	1.9795	5.6168	42.2694
5	<i>Dalbergia assamica</i>	20.3507	6.0485	1.8172	4.6348	32.8512
6	<i>Engelhardtia spicata</i>	18.0525	5.2900	1.6934	4.2167	29.2525
7	<i>Lithocarpus elegans</i>	14.8854	4.2033	1.6059	3.7221	24.4167
8	<i>Canarium subulatum</i>	3.0136	0.9090	0.2405	0.6591	4.8222
9	<i>Dolichandrone serrulata</i>	2.7299	0.7842	0.2742	0.6601	4.4484
10	<i>Myrica esculenta</i>	2.7150	0.7797	0.2682	0.6542	4.4172
11	<i>Sapindus rarak</i>	2.1555	0.6366	0.1884	0.4914	3.4720
12	<i>Albizia odoratissima</i>	1.7519	0.4937	0.1946	0.4419	2.8821
13	<i>Symplocos sp.</i>	1.6115	0.4673	0.1525	0.3809	2.6122
14	<i>Garuga pinnata</i>	1.5254	0.4408	0.1465	0.3630	2.4757
15	<i>Elaeocarpus sphaericus</i>	1.1951	0.3289	0.1433	0.3139	1.9813
16	<i>Wendlandia tinctoria</i>	0.8522	0.2152	0.1485	0.2652	1.4812
17	<i>Gluta obovata</i>	0.8029	0.2094	0.1211	0.2343	1.3676
18	<i>Blumea balsamifera</i>	0.7596	0.2100	0.0882	0.1971	1.2549
19	<i>Markhamia stipulata</i>	0.7270	0.1949	0.0992	0.2018	1.2229
20	<i>Colona flagrocarpa</i>	0.5264	0.1367	0.0806	0.1548	0.8984
21	<i>Gluta usitata</i>	0.4824	0.1234	0.0792	0.1462	0.8313
22	<i>Engelhardtia serrata</i>	0.3278	0.0860	0.0478	0.0944	0.5561
23	<i>Gmelina arborea</i>	0.2787	0.0711	0.0469	0.0852	0.4819
24	<i>Aporosa villosa</i>	0.2257	0.0578	0.0364	0.0681	0.3880
25	<i>Magnolia henryi</i>	0.2121	0.0523	0.0408	0.0691	0.3743
26	<i>Castanopsis acuminatissima</i>	0.1319	0.0327	0.0247	0.0425	0.2317
27	<i>Vaccinium sprengelii</i>	0.1224	0.0302	0.0233	0.0398	0.2157
28	<i>Erythrina subumbrans</i>	0.1201	0.0296	0.0230	0.0392	0.2119
29	<i>Acacia megaladena</i>	0.1098	0.0269	0.0216	0.0362	0.1945
30	<i>Symplocos racemosa</i>	0.0678	0.0155	0.0179	0.0255	0.1268
31	<i>Phyllanthus emblica</i>	0.0607	0.0135	0.0182	0.0242	0.1166
32	<i>Syzygium albiflorum</i>	0.0516	0.0119	0.0134	0.0192	0.0961
33	<i>Morinda tomentosa</i>	0.0166	0.0036	0.0054	0.0069	0.0325
34	<i>Phoebe paniculata</i>	0.0107	0.0023	0.0040	0.0047	0.0216
35	<i>Camellia pleurocarpa</i>	0.0059	0.0012	0.0026	0.0028	0.0125
36	<i>Lithocarpus sootepensis</i>	0.0025	0.0005	0.0014	0.0013	0.0057
	Total	349	128	58	188	722

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>31 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	46.1595	25.8516	21.4929	74.8360	168.3401
2	<i>Castanopsis diversifolia</i>	154.2455	48.5933	10.8696	31.4670	245.1754
3	<i>Schima wallichii</i>	119.5806	36.7317	9.3582	25.5955	191.2660
4	<i>Castanopsis acuminatissima</i>	51.8870	16.3972	3.4679	10.4138	82.1659
5	<i>Syzygium albiflorum</i>	30.4248	10.4308	1.5122	5.2555	47.6233
6	<i>Wendlandia tinctoria</i>	27.1789	7.1828	3.9376	7.7611	46.0605
7	<i>Myrica esculenta</i>	12.1626	3.5665	1.1167	2.8249	19.6707
8	<i>Olea salicifolia</i>	11.9624	3.7681	0.7921	2.4029	18.9255
9	<i>Syzygium cumini</i>	11.9775	3.9284	0.6792	2.2301	18.8152
10	<i>Helicia terminalis</i>	11.2001	3.1727	1.2118	2.7947	18.3793
11	<i>Elaeocarpus sphaericus</i>	6.7216	1.9288	0.6898	1.6361	10.9763
12	<i>Ternstroemia gymnanthera</i>	6.3896	1.9134	0.5532	1.4345	10.2908
13	<i>Dalbergia cultrata</i>	5.9078	1.7801	0.4738	1.2950	9.4567
14	<i>Canarium subulatum</i>	5.3179	1.5916	0.4390	1.1811	8.5296
15	<i>Docynia indica</i>	3.1642	0.9003	0.3282	0.7783	5.1710
16	<i>Symplocos sp.</i>	2.6398	0.7286	0.3119	0.6892	4.3695
17	<i>Phoebe paniculata</i>	2.6046	0.7442	0.2656	0.6350	4.2494
18	<i>Anneslea fragrans</i>	2.5243	0.6848	0.3211	0.6816	4.2118
19	<i>Phyllanthus emblica</i>	1.8420	0.4740	0.2961	0.5527	3.1648
20	<i>Rapanea porteriiana</i>	1.4685	0.3823	0.2239	0.4304	2.5052
21	<i>Eurya nitida</i>	1.3244	0.3663	0.1553	0.3444	2.1905
22	<i>Gluta obovata</i>	1.2677	0.3473	0.1609	0.3389	2.1148
23	<i>Engelhardtia spicata</i>	0.8607	0.2216	0.1398	0.2588	1.4810
24	<i>Diospyros glandulosa</i>	0.7229	0.1942	0.0970	0.1995	1.2135
25	<i>Helicia nilagirica</i>	0.7022	0.1877	0.0975	0.1963	1.1837
26	<i>Gochnatia decora</i>	0.6595	0.1807	0.0796	0.1742	1.0939
27	<i>Styrax benzoides</i>	0.4776	0.1282	0.0629	0.1313	0.8000
28	<i>Albizia odoratissima</i>	0.4661	0.1250	0.0618	0.1285	0.7814
29	<i>Betula alnoides</i>	0.4542	0.1216	0.0606	0.1256	0.7620
30	<i>Glochidion sphaerogynum</i>	0.3441	0.0905	0.0496	0.0985	0.5827
31	<i>Memecylon celastrinum</i>	0.3260	0.0800	0.0657	0.1079	0.5797
32	<i>Lithocarpus thomsonii</i>	0.2674	0.0692	0.0412	0.0790	0.4569
33	<i>Ardisia attenuata</i>	0.2222	0.0569	0.0360	0.0672	0.3822
34	<i>Turpinia pomifera</i>	0.1302	0.0322	0.0244	0.0420	0.2289
35	<i>Eriolaena candollei</i>	0.0293	0.0066	0.0082	0.0114	0.0555
36	<i>Ficus tinctoria</i>	0.0210	0.0046	0.0065	0.0085	0.0405
37	<i>Ficus maclellandii</i>	0.0030	0.0006	0.0016	0.0015	0.0066
38	<i>Acacia megaladena</i>	0.0025	0.0005	0.0014	0.0013	0.0057
39	<i>Erythrina subumbrans</i>	0.0008	0.0002	0.0006	0.0005	0.0021
	Total	524	173	59	177	933

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	32 year-old pine plantation					
1	<i>Pinus kesiya</i>	90.6786	48.4798	42.2652	149.0872	330.5107
2	<i>Schinus molle</i>	142.1970	45.0397	9.5750	28.5283	225.3400
3	<i>Syzygium cumini</i>	54.0894	19.5775	1.9679	8.2684	83.9032
4	<i>Castanopsis acuminatissima</i>	40.2445	12.5691	2.7737	8.2273	63.8145
5	<i>Phoebe paniculata</i>	15.9683	5.2418	0.9089	2.9753	25.0943
6	<i>Xanthophyllum virens</i>	11.7148	3.6225	0.8691	2.4608	18.6672
7	<i>Elaeocarpus sphaericus</i>	9.3806	2.7466	0.8620	2.1821	15.1714
8	<i>Magnolia henryi</i>	9.1334	2.9291	0.5718	1.7791	14.4134
9	<i>Castanopsis tribuloides</i>	7.4286	2.2711	0.5596	1.5825	11.8418
10	<i>Knema erratica</i>	6.4889	2.0544	0.4203	1.2904	10.2540
11	<i>Betula alnoides</i>	5.4292	1.6997	0.3692	1.1038	8.6018
12	<i>Albizia chinensis</i>	4.4580	1.3784	0.3198	0.9288	7.0850
13	<i>Engelhardtia spicata</i>	3.3387	0.9704	0.3127	0.7855	5.4074
14	<i>Erythrina subumbrans</i>	3.0039	0.9059	0.2399	0.6572	4.8069
15	<i>Myrica esculenta</i>	2.1364	0.6025	0.2309	0.5347	3.5044
16	<i>Glochidion sphaerogynum</i>	1.7503	0.4990	0.1855	0.4315	2.8664
17	<i>Symplocos sp.</i>	1.6433	0.4771	0.1547	0.3875	2.6625
18	<i>Anneslea fragrans</i>	1.5679	0.4539	0.1495	0.3719	2.5431
19	<i>Styrax benzoides</i>	1.2381	0.3335	0.1633	0.3395	2.0744
20	<i>Luvunga scandens</i>	0.8863	0.2475	0.0987	0.2256	1.4581
21	<i>Musa acuminata</i>	0.5594	0.1437	0.0910	0.1686	0.9627
22	<i>Syzygium sp.</i>	0.5547	0.1479	0.0799	0.1565	0.9390
23	<i>Gmelina arborea</i>	0.2674	0.0692	0.0412	0.0790	0.4569
24	<i>Eurya nitida</i>	0.2551	0.0658	0.0399	0.0758	0.4366
25	<i>Syzygium albiflorum</i>	0.1432	0.0320	0.0424	0.0568	0.2743
26	<i>Memecylon celastrinum</i>	0.1339	0.0332	0.0249	0.0431	0.2351
27	<i>Wendlandia tinctoria</i>	0.1066	0.0243	0.0285	0.0404	0.1998
28	<i>Phyllanthus emblica</i>	0.0705	0.0162	0.0186	0.0265	0.1318
29	<i>Olea salicifolia</i>	0.0523	0.0122	0.0126	0.0189	0.0961
30	<i>Syzygium sp.</i>	0.0447	0.0103	0.0112	0.0165	0.0828
31	<i>Milletia pachycarpa</i>	0.0251	0.0054	0.0089	0.0108	0.0501
32	<i>Litsea cubeba</i>	0.0117	0.0021	0.0083	0.0069	0.0291
33	<i>Albizia odoratissima</i>	0.0067	0.0014	0.0028	0.0031	0.0141
34	<i>Trichilla connaroides</i>	0.0025	0.0005	0.0014	0.0013	0.0057
	Total	415	153	63	213	844

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	33 year-old pine plantation					
1	<i>Pinus kesiya</i>	134.4478	76.3971	62.5763	216.6609	490.0821
2	<i>Musa acuminata</i>	13.0838	3.1760	2.7201	4.4093	23.3891
3	<i>Wendlandia tinctoria</i>	10.6540	3.4751	0.6165	2.0032	16.7489
4	<i>Cinnamomum iners</i>	7.8421	2.3433	0.6551	1.7489	12.5893
5	<i>Albizia chinensis</i>	4.4709	1.3826	0.3205	0.9311	7.1052
6	<i>Magnolia henryi</i>	3.9532	1.2099	0.3012	0.8428	6.3072
7	<i>Mallotus barbatus</i>	1.7434	0.4708	0.2487	0.4855	2.9485
8	<i>Dalbergia oliveri</i>	0.4611	0.1235	0.0613	0.1273	0.7732
9	<i>Litsea cubeba</i>	0.2583	0.0565	0.0860	0.1074	0.5082
10	<i>Glochidion acuminatum</i>	0.2694	0.0637	0.0643	0.0961	0.4934
11	<i>Ilex umbellulata</i>	0.2392	0.0615	0.0380	0.0716	0.4104
12	<i>Melastoma sanguineum</i>	0.1273	0.0277	0.0431	0.0534	0.2515
13	<i>Grewia laevigata</i>	0.1076	0.0259	0.0231	0.0367	0.1933
14	<i>Ficus ribes</i>	0.0934	0.0203	0.0320	0.0393	0.1850
15	<i>Tadehagi triquetrum</i>	0.0853	0.0179	0.0329	0.0382	0.1744
16	<i>Artocarpus lacucha</i>	0.0857	0.0182	0.0323	0.0377	0.1739
17	<i>Laportea bulbifera</i>	0.0836	0.0185	0.0260	0.0339	0.1620
18	<i>Sapindus rarak</i>	0.0757	0.0164	0.0255	0.0318	0.1495
19	<i>Saurauia napaulensis</i>	0.0660	0.0129	0.0338	0.0336	0.1464
20	<i>Archidendron clypearia</i>	0.0632	0.0139	0.0199	0.0257	0.1227
21	<i>Horsfieldia tomentosa</i>	0.0628	0.0144	0.0171	0.0239	0.1182
22	<i>Phoebe cathia</i>	0.0591	0.0135	0.0158	0.0223	0.1106
23	<i>Ficus sp.</i>	0.0545	0.0122	0.0159	0.0214	0.1041
24	<i>Lindera metcalfiana</i>	0.0414	0.0087	0.0160	0.0185	0.0847
25	<i>Mussaenda sandariana</i>	0.0365	0.0075	0.0157	0.0171	0.0769
26	<i>Milletia pachycarpa</i>	0.0381	0.0084	0.0118	0.0154	0.0737
27	<i>Alangium chinensis</i>	0.0375	0.0083	0.0115	0.0152	0.0725
28	<i>Neolitsea zeylanica</i>	0.0303	0.0061	0.0135	0.0145	0.0644
29	<i>Myrica esculenta</i>	0.0201	0.0042	0.0079	0.0091	0.0413
30	<i>Trevesia palmata</i>	0.0199	0.0043	0.0069	0.0084	0.0395
31	<i>Litsea monopetala</i>	0.0178	0.0039	0.0057	0.0073	0.0347
32	<i>Aegialitis rotundifolia</i>	0.0172	0.0036	0.0068	0.0078	0.0353
33	<i>Nyssa javanica</i>	0.0140	0.0026	0.0093	0.0080	0.0340
34	<i>Schima wallichii</i>	0.0142	0.0029	0.0065	0.0069	0.0304
35	<i>Ardisia attenuata</i>	0.0142	0.0029	0.0058	0.0065	0.0295
36	<i>Bridelia retusa</i>	0.0125	0.0025	0.0056	0.0060	0.0267
37	<i>Sorbus granulosa</i>	0.0129	0.0028	0.0046	0.0056	0.0258
38	<i>Phoebe paniculata</i>	0.0121	0.0024	0.0054	0.0058	0.0257
39	<i>Ampelocissus martinii</i>	0.0109	0.0022	0.0053	0.0054	0.0238
40	<i>Rauvolfia cambodiana</i>	0.0067	0.0013	0.0041	0.0037	0.0157
41	<i>Desmodium megaphyllum</i>	0.0048	0.0009	0.0035	0.0029	0.0121
42	<i>Eurya nitida</i>	0.0051	0.0010	0.0023	0.0024	0.0108
43	<i>Tetrastigma quadrangulatum</i>	0.0047	0.0009	0.0022	0.0023	0.0101
44	<i>Canthium berberidifolium</i>	0.0045	0.0008	0.0027	0.0024	0.0104
45	<i>Rubus rugosus</i>	0.0041	0.0008	0.0022	0.0021	0.0092
46	<i>Terminalia chebula</i>	0.0035	0.0007	0.0018	0.0018	0.0077
47	<i>Macaranga kurzii</i>	0.0024	0.0005	0.0013	0.0013	0.0055
48	<i>Glochidion hirsutum</i>	0.0017	0.0003	0.0010	0.0009	0.0039
49	<i>Turpinia cochinchinensis</i>	0.0017	0.0003	0.0010	0.0009	0.0039
50	<i>Ficus hispida</i>	0.0014	0.0003	0.0009	0.0008	0.0034
51	<i>Gaultheria notabilis</i>	0.0009	0.0002	0.0007	0.0006	0.0023
52	<i>Stereospermum neuranthum</i>	0.0008	0.0002	0.0006	0.0005	0.0021
53	<i>Fraxinus floribunda</i>	0.0006	0.0001	0.0006	0.0004	0.0018
	Total	179	89	68	228	564

Table 3-5 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	34 year-old pine plantation					
1	<i>Pinus kesiya</i>	61.7223	33.5812	28.7604	101.1216	225.1855
2	<i>Castanopsis purpurea</i>	169.9219	51.5842	13.7560	37.0852	272.3472
3	<i>Quercus vestita</i>	77.2991	24.6244	5.0034	15.2762	122.2032
4	<i>Schima wallichii</i>	55.6893	18.0571	3.3318	10.6235	87.7018
5	<i>Quercus brandisiana</i>	37.5485	11.3097	3.1570	8.3294	60.3446
6	<i>Syzygium cumini</i>	18.3123	6.1901	0.8945	3.2018	28.5988
7	<i>Wendlandia tinctoria</i>	9.2862	2.4311	1.3950	2.6973	15.8097
8	<i>Dalbergia assamica</i>	8.6575	2.4895	0.9315	2.1250	14.2035
9	<i>Viburnum sambucinum</i>	4.7622	1.4627	0.3607	1.0107	7.5962
10	<i>Aporosa villosa</i>	3.8745	1.0126	0.5936	1.1324	6.6131
11	<i>Glochidion sphaerogynum</i>	3.1381	0.8703	0.3852	0.8235	5.2171
12	<i>Craibiodendron stellatum</i>	2.3873	0.6503	0.3147	0.6470	3.9994
13	<i>Lithocarpus elegans</i>	2.2372	0.6474	0.2224	0.5358	3.6428
14	<i>Albizia odoratissima</i>	2.0769	0.5544	0.2818	0.5782	3.4913
15	<i>Phyllanthus emblica</i>	1.6537	0.3864	0.4125	0.6033	3.0558
16	<i>Cycas pectinata</i>	1.4041	0.3768	0.1896	0.3884	2.3589
17	<i>Lithocarpus sootepensis</i>	1.3634	0.3912	0.1350	0.3290	2.2186
18	<i>Stereospermum colias</i>	1.2209	0.3479	0.1246	0.2987	1.9920
19	<i>Vaccinium sprengelii</i>	0.8631	0.2357	0.1116	0.2322	1.4426
20	<i>Glochidion hirsutum</i>	0.8277	0.2073	0.1498	0.2621	1.4468
21	<i>Eriolaena candollei</i>	0.8098	0.2071	0.1338	0.2459	1.3966
22	<i>Horsfieldia tomentosa</i>	0.3369	0.0885	0.0488	0.0967	0.5709
23	<i>Albizia chinensis</i>	0.2402	0.0618	0.0381	0.0719	0.4120
24	<i>Canarium subulatum</i>	0.2197	0.0562	0.0357	0.0665	0.3781
25	<i>Anneslea fragrans</i>	0.1825	0.0442	0.0384	0.0618	0.3270
26	<i>Pavetta tomentosa</i>	0.1503	0.0365	0.0317	0.0507	0.2692
27	<i>Helicia nilagirica</i>	0.1211	0.0291	0.0263	0.0416	0.2182
28	<i>Styrax benzoides</i>	0.1170	0.0284	0.0242	0.0393	0.2088
29	<i>Diospyros glandulosa</i>	0.1035	0.0252	0.0207	0.0344	0.1838
30	<i>Gluta usitata</i>	0.1035	0.0252	0.0207	0.0344	0.1838
31	<i>Antidesma acidum</i>	0.0856	0.0193	0.0246	0.0334	0.1629
32	<i>Dalbergia cultrata</i>	0.0756	0.0181	0.0164	0.0261	0.1363
33	<i>Phoebe paniculata</i>	0.0627	0.0140	0.0189	0.0250	0.1206
34	<i>Canthium sp.</i>	0.0611	0.0133	0.0200	0.0254	0.1199
35	<i>Engelhardtia spicata</i>	0.0555	0.0123	0.0170	0.0223	0.1070
36	<i>Protium serratum</i>	0.0273	0.0055	0.0125	0.0132	0.0585
37	<i>Dillenia aurea</i>	0.0243	0.0053	0.0082	0.0102	0.0480
38	<i>Syzygium albiflorum</i>	0.0203	0.0041	0.0090	0.0097	0.0431
39	<i>Rhus javanica</i>	0.0106	0.0021	0.0054	0.0054	0.0235
40	<i>Tristania rufescens</i>	0.0081	0.0017	0.0032	0.0037	0.0167
41	<i>Symplocos racemosa</i>	0.0073	0.0015	0.0030	0.0034	0.0153
42	<i>Schoepfia fragrans</i>	0.0067	0.0014	0.0028	0.0031	0.0141
43	<i>Litsea cubeba</i>	0.0067	0.0014	0.0028	0.0031	0.0141
44	<i>Maesa permollis</i>	0.0050	0.0009	0.0031	0.0028	0.0117
45	<i>Blumea balsamifera</i>	0.0051	0.0010	0.0023	0.0024	0.0108
46	<i>Castanopsis diversifolia</i>	0.0035	0.0007	0.0018	0.0018	0.0077
47	<i>Eurya nitida</i>	0.0025	0.0005	0.0014	0.0013	0.0057
48	<i>Celastrus paniculata</i>	0.0024	0.0005	0.0013	0.0013	0.0055
49	<i>Tadehagi triquetrum</i>	0.0019	0.0004	0.0011	0.0010	0.0045
50	<i>Engelhardtia serrata</i>	0.0017	0.0003	0.0010	0.0009	0.0039
	Total	467	158	61	188	875

Table 3-6 Phosphorus storages of tree species in a series of pine plantations

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>14 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	7.5848	4.0467	2.0356	2.3862	16.0532
2	<i>Glochidion sphaerogynum</i>	10.2415	3.5858	0.6350	0.6544	15.1166
3	<i>Schima wallichii</i>	5.6389	2.1626	0.2373	0.3016	8.3404
4	<i>Albizia chinensis</i>	3.6682	1.4052	0.1511	0.1953	5.4199
5	<i>Callicarpa arborea</i>	1.7779	0.6693	0.0791	0.0980	2.6243
6	<i>Litsea sp.</i>	1.6054	0.5701	0.0911	0.0991	2.3658
7	<i>Castanopsis diversifolia</i>	1.5120	0.5869	0.0583	0.0783	2.2355
8	<i>Ficus ribes</i>	1.2427	0.4668	0.0548	0.0685	1.8328
9	<i>Eriolaena candollei</i>	1.1017	0.4115	0.0506	0.0616	1.6255
10	<i>Myrica esculenta</i>	0.9510	0.3495	0.0477	0.0552	1.4034
11	<i>Syzygium cumini</i>	0.9008	0.3503	0.0349	0.0466	1.3326
12	<i>Engelhardtia spicata</i>	0.8577	0.3038	0.0512	0.0537	1.2663
13	<i>Archidendron clypearia</i>	0.8601	0.3376	0.0313	0.0435	1.2725
14	<i>Ficus callosa</i>	0.7928	0.2731	0.0510	0.0519	1.1688
15	<i>Albizia odoratissima</i>	0.6617	0.2555	0.0258	0.0345	0.9775
16	<i>Phyllanthus emblica</i>	0.3591	0.1128	0.0346	0.0282	0.5347
17	<i>Phoebe lanceolata</i>	0.3267	0.1206	0.0155	0.0186	0.4814
18	<i>Grewia laevigata</i>	0.3164	0.1166	0.0151	0.0181	0.4662
19	<i>Litsea monopetala</i>	0.1236	0.0415	0.0089	0.0085	0.1826
20	<i>Colona flagrocarpa</i>	0.0976	0.0320	0.0077	0.0070	0.1444
21	<i>Memecylon celastrinum</i>	0.0963	0.0316	0.0076	0.0069	0.1425
22	<i>Ternstroemia gymnanthera</i>	0.0821	0.0262	0.0074	0.0062	0.1219
23	<i>Wendlandia tinctoria</i>	0.0720	0.0231	0.0063	0.0054	0.1068
24	<i>Eurya nitida</i>	0.0654	0.0218	0.0048	0.0046	0.0966
25	<i>Glochidion hirsutum</i>	0.0609	0.0189	0.0061	0.0049	0.0909
26	<i>Horsfieldia tomentosa</i>	0.0439	0.0137	0.0043	0.0035	0.0653
27	<i>Dolichandrone serrulata</i>	0.0415	0.0127	0.0045	0.0034	0.0620
28	<i>Aporosa villosa</i>	0.0413	0.0129	0.0040	0.0033	0.0615
29	<i>Syzygium albiflorum</i>	0.0278	0.0080	0.0038	0.0026	0.0422
30	<i>Flacourtia indica</i>	0.0157	0.0048	0.0017	0.0013	0.0235
31	<i>Congea tomentosa</i>	0.0140	0.0042	0.0016	0.0012	0.0209
32	<i>Flemingia lineata</i>	0.0066	0.0019	0.0009	0.0006	0.0100
33	<i>Stereospermum neuranthum</i>	0.0036	0.0010	0.0006	0.0004	0.0056
34	<i>Glochidion acuminatum</i>	0.0012	0.0003	0.0003	0.0002	0.0020
35	<i>Melastoma sanguineum</i>	0.0005	0.0001	0.0001	0.0001	0.0009
36	<i>Micromelum minutum</i>	0.0004	0.0001	0.0001	0.0000	0.0006
	Total	41	16	4	4	66

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				Total
		Stem	Branch	Leaf	Root	
	15 year-old pine plantation					
1	<i>Pinus kesiya</i>	3.0185	1.5268	0.8111	0.9672	6.3237
2	<i>Schima wallichii</i>	6.5229	2.4459	0.3061	0.3655	9.6404
3	<i>Castanopsis acuminatissima</i>	5.5404	2.2368	0.1799	0.2654	8.2224
4	<i>Engelhardtia spicata</i>	3.2327	1.2141	0.1453	0.1791	4.7712
5	<i>Beilschmiedia gammieana</i>	3.2511	1.3213	0.1070	0.1552	4.8347
6	<i>Dillenia aurea</i>	2.5064	1.0198	0.0823	0.1194	3.7280
7	<i>Ternstroemia gymnanthera</i>	2.4042	0.8740	0.1232	0.1417	3.5432
8	<i>Helicia terminalis</i>	1.7620	0.6586	0.0811	0.0986	2.6003
9	<i>Phoebe paniculata</i>	1.4618	0.5048	0.0970	0.0961	2.1597
10	<i>Trichilla connaroides</i>	1.3871	0.5455	0.0515	0.0703	2.0544
11	<i>Stereospermum neuranthum</i>	1.2863	0.4994	0.0495	0.0666	1.9018
12	<i>Elaeocarpus sphaericus</i>	0.8413	0.3226	0.0355	0.0450	1.2442
13	<i>Helicia nilagirica</i>	0.6980	0.2470	0.0399	0.0433	1.0282
14	<i>Dalbergia assamica</i>	0.6920	0.2679	0.0267	0.0359	1.0225
15	<i>Castanopsis diversifolia</i>	0.5443	0.2063	0.0237	0.0296	0.8040
16	<i>Glochidion sphaerogynum</i>	0.4833	0.1700	0.0312	0.0310	0.7155
17	<i>Lindera metcalfiana</i>	0.4669	0.1470	0.0462	0.0368	0.6969
18	<i>Memecylon celastrinum</i>	0.4321	0.1358	0.0444	0.0344	0.6467
19	<i>Pyrenaria diospyricarpa</i>	0.3705	0.1096	0.0470	0.0329	0.5600
20	<i>Eurya nitida</i>	0.3432	0.1134	0.0273	0.0246	0.5085
21	<i>Wendlandia tinctoria</i>	0.3079	0.1033	0.0226	0.0213	0.4551
22	<i>Magnolia henryi</i>	0.2219	0.0751	0.0157	0.0151	0.3278
23	<i>Diospyros glandulosa</i>	0.1518	0.0475	0.0158	0.0122	0.2274
24	<i>Eriolaena candollei</i>	0.1241	0.0431	0.0076	0.0080	0.1828
25	<i>Symplocos henschelii</i>	0.1183	0.0398	0.0087	0.0082	0.1749
26	<i>Glochidion acuminatum</i>	0.0788	0.0209	0.0174	0.0089	0.1259
27	<i>Vitex canescens</i>	0.0891	0.0303	0.0060	0.0060	0.1313
28	<i>Phoebe cathia</i>	0.0671	0.0215	0.0059	0.0051	0.0995
29	<i>Saurauia roxburghii</i>	0.0605	0.0186	0.0065	0.0050	0.0905
30	<i>Archidendron clypearia</i>	0.0443	0.0130	0.0061	0.0041	0.0674
31	<i>Albizia odoratissima</i>	0.0291	0.0088	0.0033	0.0025	0.0436
32	<i>Quercus semiserrata</i>	0.0266	0.0082	0.0028	0.0022	0.0398
33	<i>Turpinia cochinchinensis</i>	0.0238	0.0074	0.0023	0.0019	0.0354
34	<i>Melastoma sanguineum</i>	0.0131	0.0032	0.0040	0.0017	0.0220
35	<i>Rhus javanica</i>	0.0101	0.0029	0.0014	0.0009	0.0153
36	<i>Phyllanthus emblica</i>	0.0096	0.0028	0.0013	0.0009	0.0146
37	<i>Blumea balsamifera</i>	0.0030	0.0007	0.0009	0.0004	0.0050
38	<i>Micromelum minutum</i>	0.0021	0.0005	0.0006	0.0003	0.0035
39	<i>Mussaenda sanderiana</i>	0.0016	0.0004	0.0003	0.0002	0.0026
40	<i>Lepisanthes rubiginosa</i>	0.0014	0.0003	0.0004	0.0002	0.0023
41	<i>Fissistigma minuticalyx</i>	0.0005	0.0001	0.0001	0.0001	0.0009
42	<i>Ampelocissus martinii</i>	0.0003	0.0001	0.0001	0.0000	0.0006
43	<i>Litsea monopetala</i>	0.0003	0.0001	0.0001	0.0000	0.0005
44	<i>Eurya acuminata</i>	0.0003	0.0001	0.0001	0.0000	0.0005
45	<i>Cinnamomum iners</i>	0.0002	0.0001	0.0001	0.0000	0.0004
46	<i>Euodia roxburghiana</i>	0.0002	0.0001	0.0001	0.0000	0.0004
47	<i>Milletia pachycarpa</i>	0.0002	0.0000	0.0001	0.0000	0.0004
48	<i>Litsea cubeba</i>	0.0001	0.0000	0.0001	0.0000	0.0002
49	<i>Arytera littoralis</i>	0.0001	0.0000	0.0001	0.0000	0.0002
50	<i>Myrica esculenta</i>	0.0001	0.0000	0.0001	0.0000	0.0002
51	<i>Styrax benzoides</i>	0.0001	0.0000	0.0001	0.0000	0.0002
52	<i>Litsea glutinosa</i>	0.0001	0.0000	0.0001	0.0000	0.0002
53	<i>Viburnum sambucinum</i>	0.0001	0.0000	0.0000	0.0000	0.0001
54	<i>Buddleja asiatica</i>	0.0000	0.0000	0.0000	0.0000	0.0001
	Total	39	15	2	3	59

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	16 year-old pine plantation					
1	<i>Pinus kesiya</i>	15.8324	8.3773	4.2503	5.0025	33.4625
2	<i>Schima wallichii</i>	2.5266	0.9185	0.1303	0.1491	3.7246
3	<i>Canarium subulatum</i>	0.9378	0.3483	0.0437	0.0530	1.3828
4	<i>Wendlandia tinctoria</i>	0.8892	0.3057	0.0593	0.0588	1.3131
5	<i>Spatholobus parviflorus</i>	0.8119	0.3041	0.0361	0.0450	1.1971
6	<i>Engelhardtia spicata</i>	0.7312	0.2693	0.0357	0.0421	1.0783
7	<i>Phoebe paniculata</i>	0.6983	0.2458	0.0412	0.0438	1.0291
8	<i>Vitex peduncularis</i>	0.5443	0.1926	0.0315	0.0339	0.8021
9	<i>Glochidion sphaerogynum</i>	0.1669	0.0531	0.0151	0.0128	0.2478
10	<i>Ampelocissus martinii</i>	0.1620	0.0537	0.0123	0.0114	0.2395
11	<i>Musa acuminata</i>	0.1572	0.0483	0.0169	0.0130	0.2354
12	<i>Eriolaena candollei</i>	0.1637	0.0579	0.0093	0.0102	0.2411
13	<i>Phoebe cathia</i>	0.1218	0.0420	0.0081	0.0080	0.1800
14	<i>Lindera metcalfiana</i>	0.0727	0.0227	0.0086	0.0060	0.1100
15	<i>Glochidion acuminatum</i>	0.0535	0.0127	0.0169	0.0072	0.0904
16	<i>Glochidion hirsutum</i>	0.0559	0.0172	0.0059	0.0046	0.0835
17	<i>Melastoma sanguineum</i>	0.0132	0.0032	0.0039	0.0017	0.0220
18	<i>Saurauia roxburghii</i>	0.0083	0.0022	0.0016	0.0009	0.0131
19	<i>Eurya nitida</i>	0.0081	0.0021	0.0018	0.0009	0.0129
20	<i>Litsea cubeba</i>	0.0072	0.0018	0.0020	0.0009	0.0119
21	<i>Litsea monopetala</i>	0.0066	0.0018	0.0013	0.0007	0.0104
22	<i>Archidendron clypearia</i>	0.0037	0.0009	0.0008	0.0004	0.0059
23	<i>Trichilla connaroides</i>	0.0032	0.0008	0.0009	0.0004	0.0053
24	<i>Rauvolfia cambodiana</i>	0.0026	0.0006	0.0008	0.0004	0.0045
25	<i>Blumea balsamifera</i>	0.0019	0.0004	0.0007	0.0003	0.0033
26	<i>Ficus callosa</i>	0.0021	0.0006	0.0004	0.0002	0.0033
27	<i>Pyrenaria diospyricarpa</i>	0.0018	0.0004	0.0006	0.0002	0.0030
28	<i>Colona flagrocarpa</i>	0.0012	0.0003	0.0004	0.0002	0.0020
29	<i>Viburnum sambucinum</i>	0.0004	0.0001	0.0001	0.0001	0.0007
30	<i>Mussaenda sanderiana</i>	0.0003	0.0001	0.0001	0.0000	0.0005
31	<i>Diospyros glandulosa</i>	0.0002	0.0001	0.0001	0.0000	0.0004
32	<i>Artocarpus lacucha</i>	0.0002	0.0001	0.0001	0.0000	0.0004
33	<i>Micromelum minutum</i>	0.0002	0.0000	0.0001	0.0000	0.0003
	Total	24	11	5	6	46

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				Total
		Stem	Branch	Leaf	Root	
	17 year-old pine plantation					
1	<i>Pinus kesiya</i>	3.0985	1.4926	0.8336	1.0091	6.4338
2	<i>Schima wallichii</i>	6.1948	2.2487	0.3282	0.3686	9.1403
3	<i>Myrica esculenta</i>	5.1594	1.9238	0.2431	0.2910	7.6173
4	<i>Engelhardtia spicata</i>	4.3374	1.6188	0.2224	0.2497	6.4283
5	<i>Castanopsis diversifolia</i>	4.1141	1.5329	0.1962	0.2328	6.0760
6	<i>Quercus semiserrata</i>	4.0458	1.7507	0.0969	0.1688	6.0623
7	<i>Helicia terminalis</i>	3.3431	1.1431	0.2281	0.2234	4.9377
8	<i>Castanopsis acuminatissima</i>	2.6319	1.0946	0.0771	0.1195	3.9231
9	<i>Phoebe cathia</i>	2.3600	0.9836	0.0680	0.1065	3.5181
10	<i>Wendlandia tinctoria</i>	2.1271	0.7254	0.1491	0.1435	3.1450
11	<i>Syzygium albiflorum</i>	1.8790	0.7037	0.0842	0.1043	2.7712
12	<i>Elaeocarpus sphaericus</i>	1.6163	0.6152	0.0692	0.0874	2.3880
13	<i>Phyllanthus emblica</i>	1.3353	0.4118	0.1414	0.1092	1.9976
14	<i>Glochidion sphaerogynum</i>	0.7763	0.2450	0.0753	0.0608	1.1575
15	<i>Beilschmiedia gammieana</i>	0.7189	0.2544	0.0422	0.0449	1.0604
16	<i>Diospyros glandulosa</i>	0.6451	0.2086	0.0574	0.0484	0.9594
17	<i>Artocarpus lacucha</i>	0.6631	0.2560	0.0260	0.0346	0.9797
18	<i>Albizia chinensis</i>	0.5166	0.1963	0.0216	0.0278	0.7623
19	<i>Heterophragma sulfureum</i>	0.3733	0.1284	0.0247	0.0246	0.5511
20	<i>Trichilla connaroides</i>	0.2674	0.0890	0.0211	0.0190	0.3965
21	<i>Lithocarpus sp.</i>	0.2553	0.0853	0.0187	0.0177	0.3770
22	<i>Eurya nitida</i>	0.2284	0.0732	0.0204	0.0173	0.3393
23	<i>Albizia odoratissima</i>	0.2261	0.0805	0.0131	0.0140	0.3337
24	<i>Eriolaena candollei</i>	0.1933	0.0644	0.0145	0.0135	0.2857
25	<i>Dillenia aurea</i>	0.1912	0.0678	0.0111	0.0119	0.2820
26	<i>Phoebe paniculata</i>	0.1666	0.0557	0.0125	0.0116	0.2464
27	<i>Archidendron clypearia</i>	0.1511	0.0490	0.0129	0.0112	0.2242
28	<i>Garuga pinnata</i>	0.1513	0.0518	0.0101	0.0100	0.2232
29	<i>Ternstroemia gymnanthera</i>	0.1426	0.0484	0.0099	0.0096	0.2105
30	<i>Erythrina subumbrans</i>	0.1231	0.0427	0.0076	0.0079	0.1813
31	<i>Litsea glutinosa</i>	0.1023	0.0315	0.0110	0.0084	0.1532
32	<i>Helicia nilagirica</i>	0.1055	0.0363	0.0068	0.0069	0.1554
33	<i>Glochidion acuminatum</i>	0.0755	0.0197	0.0185	0.0089	0.1225
34	<i>Symplocos sp.</i>	0.0702	0.0222	0.0066	0.0055	0.1044
35	<i>Memecylon celastrinum</i>	0.0608	0.0178	0.0082	0.0055	0.0923
36	<i>Pyrenaria diospyricarpa</i>	0.0592	0.0166	0.0097	0.0059	0.0914
37	<i>Kydia calycina</i>	0.0624	0.0208	0.0046	0.0044	0.0921
38	<i>Glochidion hirsutum</i>	0.0535	0.0160	0.0064	0.0046	0.0804
39	<i>Melastoma sanguineum</i>	0.0467	0.0115	0.0129	0.0059	0.0770
40	<i>Arytera littoralis</i>	0.0412	0.0118	0.0068	0.0040	0.0637
41	<i>Rhus succedanea</i>	0.0431	0.0134	0.0042	0.0034	0.0642
42	<i>Cinnamomum iners</i>	0.0381	0.0117	0.0042	0.0032	0.0571
43	<i>Docynia indica</i>	0.0326	0.0097	0.0039	0.0028	0.0490
44	<i>Ampelocissus martinii</i>	0.0332	0.0104	0.0033	0.0026	0.0494
45	<i>Sapindus rarak</i>	0.0175	0.0052	0.0021	0.0015	0.0263
46	<i>Blumea balsamifera</i>	0.0152	0.0037	0.0043	0.0019	0.0252
47	<i>Carallia brachiata</i>	0.0152	0.0046	0.0017	0.0013	0.0228
48	<i>Xanthophyllum virens</i>	0.0117	0.0035	0.0014	0.0010	0.0176
49	<i>Lindera metcalfiana</i>	0.0086	0.0024	0.0016	0.0009	0.0135
50	<i>Litsea sp.</i>	0.0051	0.0013	0.0011	0.0006	0.0082
51	<i>Alstonia scholaris</i>	0.0050	0.0013	0.0011	0.0006	0.0080
52	<i>Symplocos henschelii</i>	0.0047	0.0013	0.0008	0.0005	0.0074
53	<i>Ilex umbellulata</i>	0.0036	0.0010	0.0006	0.0004	0.0055
54	<i>Catunaregam tomentosa</i>	0.0025	0.0006	0.0005	0.0003	0.0039
55	<i>Anneslea fragrans</i>	0.0017	0.0004	0.0003	0.0002	0.0026
56	<i>Saurauia roxburghii</i>	0.0011	0.0003	0.0002	0.0001	0.0018
57	<i>Spondias bipinnata</i>	0.0007	0.0002	0.0002	0.0001	0.0011
58	<i>Rhus javanica</i>	0.0007	0.0002	0.0002	0.0001	0.0011
59	<i>Viburnum sambucinum</i>	0.0005	0.0001	0.0001	0.0001	0.0008
60	<i>Euodia roxburghiana</i>	0.0004	0.0001	0.0002	0.0001	0.0007
61	<i>Quercus brandisiana</i>	0.0001	0.0000	0.0001	0.0000	0.0002
	Total	49	19	3	4	74

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	18 year-old pine plantation					
1	<i>Pinus kesiya</i>	11.8026	6.1123	3.1698	3.7500	24.8347
2	<i>Castanopsis purpurea</i>	6.3877	2.2926	0.3590	0.3896	9.4290
3	<i>Schima wallichii</i>	3.1280	1.1630	0.1534	0.1786	4.6230
4	<i>Eriolaena candollei</i>	3.0188	1.1297	0.1417	0.1696	4.4598
5	<i>Castanopsis acuminatissima</i>	2.8334	1.0399	0.1411	0.1644	4.1788
6	<i>Quercus vestita</i>	2.7115	0.9398	0.1742	0.1764	4.0019
7	<i>Castanopsis diversifolia</i>	2.6027	0.9333	0.1470	0.1591	3.8421
8	<i>Wendlandia tinctoria</i>	2.3674	0.7541	0.2187	0.1818	3.5221
9	<i>Glochidion sphaerogynum</i>	2.3009	0.7938	0.1524	0.1514	3.3985
10	<i>Dalbergia assamica</i>	1.7854	0.6011	0.1416	0.1258	2.6539
11	<i>Acacia megaladena</i>	1.6338	0.6678	0.0499	0.0762	2.4277
12	<i>Ternstroemia gymnanthera</i>	0.8822	0.2996	0.0608	0.0595	1.3021
13	<i>Archidendron clypearia</i>	0.8323	0.2942	0.0481	0.0518	1.2264
14	<i>Albizia odoratissima</i>	0.7624	0.2934	0.0309	0.0403	1.1269
15	<i>Phoebe lanceolata</i>	0.7219	0.2575	0.0404	0.0442	1.0639
16	<i>Ficus ribes</i>	0.6986	0.2598	0.0322	0.0393	1.0298
17	<i>Castanopsis tribuloides</i>	0.6848	0.2541	0.0318	0.0387	1.0094
18	<i>Helicia terminalis</i>	0.5620	0.1977	0.0333	0.0354	0.8284
19	<i>Lithocarpus sootepensis</i>	0.5482	0.1881	0.0358	0.0361	0.8083
20	<i>Erythrina subumbrans</i>	0.4230	0.1533	0.0219	0.0251	0.6232
21	<i>Syzygium cumini</i>	0.4199	0.1478	0.0246	0.0263	0.6186
22	<i>Eurya nitida</i>	0.3928	0.1302	0.0299	0.0277	0.5807
23	<i>Syzygium albiflorum</i>	0.3767	0.1224	0.0324	0.0279	0.5594
24	<i>Phyllanthus emblica</i>	0.3585	0.1117	0.0361	0.0287	0.5350
25	<i>Diospyros glandulosa</i>	0.3537	0.1187	0.0257	0.0244	0.5225
26	<i>Stereospermum neuranthum</i>	0.2913	0.1011	0.0183	0.0188	0.4295
27	<i>Protium serratum</i>	0.2766	0.0969	0.0164	0.0175	0.4074
28	<i>Aporosa villosa</i>	0.2647	0.0831	0.0259	0.0209	0.3947
29	<i>Elaeocarpus sphaericus</i>	0.2381	0.0862	0.0123	0.0141	0.3507
30	<i>Engelhardtia spicata</i>	0.2371	0.0858	0.0122	0.0141	0.3492
31	<i>Gluta obovata</i>	0.2050	0.0668	0.0169	0.0150	0.3037
32	<i>Magnolia henryi</i>	0.1705	0.0584	0.0113	0.0113	0.2515
33	<i>Dillenia aurea</i>	0.1693	0.0580	0.0115	0.0113	0.2500
34	<i>Pterospermum acerifolium</i>	0.1657	0.0586	0.0094	0.0103	0.2441
35	<i>Symplocos sp.</i>	0.1564	0.0531	0.0107	0.0105	0.2307
36	<i>Anneslea fragrans</i>	0.1146	0.0396	0.0072	0.0074	0.1689
37	<i>Dolichandrone serrulata</i>	0.0935	0.0301	0.0081	0.0070	0.1387
38	<i>Docynia indica</i>	0.0942	0.0321	0.0062	0.0063	0.1388
39	<i>Callicarpa arborea</i>	0.0584	0.0189	0.0050	0.0043	0.0866
40	<i>Gmelina arborea</i>	0.0533	0.0176	0.0041	0.0038	0.0788
41	<i>Colona flagrocarpa</i>	0.0356	0.0114	0.0031	0.0027	0.0528
42	<i>Helicia nilagirica</i>	0.0319	0.0102	0.0028	0.0024	0.0474
43	<i>Vaccinium sprengelii</i>	0.0242	0.0073	0.0027	0.0020	0.0363
44	<i>Symplocos racemosa</i>	0.0217	0.0065	0.0026	0.0019	0.0327
45	<i>Schoepfia fragrans</i>	0.0213	0.0066	0.0021	0.0017	0.0317
46	<i>Styrax benzoides</i>	0.0075	0.0022	0.0010	0.0007	0.0114
	Total	51	20	6	6	83

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	19 year-old pine plantation					
1	<i>Pinus kesiya</i>	14.8992	7.3652	4.0058	4.8061	31.0763
2	<i>Castanopsis diversifolia</i>	5.6847	2.0440	0.3137	0.3446	8.3870
3	<i>Eriolaena candollei</i>	3.8455	1.4021	0.2021	0.2275	5.6772
4	<i>Castanopsis purpurea</i>	3.8617	1.5448	0.1437	0.1928	5.7429
5	<i>Albizia chinensis</i>	2.5322	0.9245	0.1279	0.1481	3.7328
6	<i>Wendlandia tinctoria</i>	2.1742	0.7320	0.1643	0.1512	3.2217
7	<i>Ternstroemia gymnanthera</i>	1.4229	0.5474	0.0584	0.0754	2.1039
8	<i>Gluta obovata</i>	1.0370	0.4119	0.0358	0.0512	1.5359
9	<i>Ficus ribes</i>	0.9983	0.3508	0.0595	0.0630	1.4715
10	<i>Schima wallichii</i>	0.9567	0.3541	0.0450	0.0543	1.4102
11	<i>Markhamia stipulata</i>	0.7453	0.2731	0.0368	0.0432	1.0984
12	<i>Syzygium cumini</i>	0.6892	0.2515	0.0346	0.0403	1.0156
13	<i>Phyllanthus emblica</i>	0.4872	0.1568	0.0428	0.0366	0.7234
14	<i>Dolichandrone serrulata</i>	0.4442	0.1538	0.0283	0.0288	0.6551
15	<i>Castanopsis acuminatissima</i>	0.4255	0.1598	0.0187	0.0235	0.6274
16	<i>Protium serratum</i>	0.4083	0.1420	0.0254	0.0263	0.6019
17	<i>Acacia megaladena</i>	0.3572	0.1248	0.0217	0.0227	0.5264
18	<i>Phoebe lanceolata</i>	0.3266	0.1190	0.0168	0.0192	0.4816
19	<i>Glochidion sphaerogynum</i>	0.3118	0.1008	0.0264	0.0231	0.4621
20	<i>Litsea monopetala</i>	0.2566	0.0933	0.0130	0.0151	0.3779
21	<i>Phoebe paniculata</i>	0.2027	0.0702	0.0128	0.0132	0.2988
22	<i>Elaeocarpus sphaericus</i>	0.1726	0.0612	0.0097	0.0106	0.2541
23	<i>Adinandra integerrima</i>	0.1395	0.0443	0.0129	0.0107	0.2074
24	<i>Albizia odoratissima</i>	0.1006	0.0345	0.0066	0.0066	0.1482
25	<i>Horsfieldia tomentosa</i>	0.0643	0.0198	0.0067	0.0052	0.0961
26	<i>Dalbergia velutina</i>	0.0602	0.0200	0.0045	0.0042	0.0889
27	<i>Xanthophyllum virens</i>	0.0587	0.0189	0.0051	0.0044	0.0870
28	<i>Stereospermum neuranthum</i>	0.0481	0.0157	0.0038	0.0035	0.0712
29	<i>Holarrhena pubescens</i>	0.0414	0.0131	0.0039	0.0032	0.0616
30	<i>Dillenia indica</i>	0.0408	0.0130	0.0037	0.0031	0.0606
31	<i>Pterospermum acerifolium</i>	0.0380	0.0122	0.0032	0.0028	0.0562
32	<i>Aporusa wallichii</i>	0.0315	0.0099	0.0031	0.0025	0.0469
33	<i>Helicia nilagirica</i>	0.0268	0.0085	0.0025	0.0021	0.0398
34	<i>Engelhardtia spicata</i>	0.0142	0.0041	0.0019	0.0013	0.0216
35	<i>Vaccinium sprengelii</i>	0.0088	0.0026	0.0011	0.0008	0.0132
36	<i>Syzygium albiflorum</i>	0.0060	0.0017	0.0008	0.0006	0.0092
37	<i>Cinnamomum iners</i>	0.0013	0.0004	0.0003	0.0002	0.0021
38	<i>Arytera littoralis</i>	0.0010	0.0002	0.0003	0.0001	0.0017
	Total	43	18	6	6	72

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>20 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	16.7087	8.3202	4.4915	5.3758	34.8962
2	<i>Bauhinia variegata</i>	2.4236	0.8748	0.1320	0.1459	3.5763
3	<i>Eriolaena candollei</i>	2.0900	0.7612	0.1075	0.1231	3.0818
4	<i>Syzygium albiflorum</i>	0.5066	0.1831	0.0268	0.0302	0.7467
5	<i>Castanopsis diversifolia</i>	0.3452	0.1195	0.0221	0.0225	0.5093
6	<i>Glochidion sphaerogynum</i>	0.3347	0.1238	0.0157	0.0190	0.4933
7	<i>Phyllanthus emblica</i>	0.2265	0.0763	0.0159	0.0154	0.3342
8	<i>Dolichandrone serrulata</i>	0.0201	0.0062	0.0021	0.0016	0.0301
9	<i>Syzygium cumini</i>	0.0096	0.0027	0.0015	0.0009	0.0148
10	<i>Arytera littoralis</i>	0.0080	0.0020	0.0021	0.0010	0.0131
11	<i>Aporosa villosa</i>	0.0060	0.0017	0.0008	0.0006	0.0092
12	<i>Wendlandia tinctoria</i>	0.0053	0.0015	0.0008	0.0005	0.0080
13	<i>Dillenia indica</i>	0.0046	0.0013	0.0007	0.0004	0.0070
14	<i>Litsea monopetala</i>	0.0034	0.0009	0.0007	0.0004	0.0054
15	<i>Phoebe paniculata</i>	0.0010	0.0003	0.0002	0.0001	0.0016
16	<i>Symplocos sp.</i>	0.0004	0.0001	0.0001	0.0000	0.0006
17	<i>Rhus javanica</i>	0.0002	0.0001	0.0001	0.0000	0.0004
	Total	23	10	5	6	44

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>21 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	17.2669	8.8197	4.6390	5.5150	36.2406
2	<i>Schima wallichii</i>	13.2779	5.0420	0.5995	0.7298	19.6492
3	<i>Castanopsis acuminatissima</i>	5.7682	2.1698	0.2561	0.3182	8.5123
4	<i>Anneslea fragrans</i>	5.6335	2.1482	0.2441	0.3049	8.3307
5	<i>Syzygium albiflorum</i>	4.1789	1.6988	0.1575	0.2052	6.2405
6	<i>Castanopsis diversifolia</i>	3.7107	1.4969	0.1241	0.1790	5.5108
7	<i>Lithocarpus elegans</i>	3.0132	1.1472	0.1315	0.1637	4.4555
8	<i>Wendlandia tinctoria</i>	2.2935	0.7627	0.1821	0.1633	3.4016
9	<i>Elaeocarpus sphaericus</i>	2.1637	0.7805	0.1210	0.1312	3.1965
10	<i>Myrica esculenta</i>	1.2484	0.4734	0.0534	0.0677	1.8429
11	<i>Buchanania lanzan</i>	1.1977	0.4382	0.0623	0.0704	1.7685
12	<i>Syzygium cumini</i>	0.8612	0.3064	0.0498	0.0533	1.2707
13	<i>Lithocarpus garrettianus</i>	0.8256	0.2785	0.0587	0.0564	1.2192
14	<i>Glochidion sphaerogynum</i>	0.7543	0.2501	0.0584	0.0535	1.1163
15	<i>Aporosa villosa</i>	0.5160	0.1664	0.0471	0.0391	0.7687
16	<i>Magnolia henryi</i>	0.5099	0.1869	0.0252	0.0296	0.7514
17	<i>Xanthophyllum virens</i>	0.3763	0.1402	0.0171	0.0211	0.5547
18	<i>Engelhardtia spicata</i>	0.3099	0.0998	0.0271	0.0233	0.4600
19	<i>Phoebe paniculata</i>	0.2700	0.0882	0.0220	0.0196	0.3998
20	<i>Albizia chinensis</i>	0.2561	0.0917	0.0142	0.0156	0.3775
21	<i>Symplocos sp.</i>	0.2063	0.0688	0.0153	0.0144	0.3048
22	<i>Engelhardtia serrata</i>	0.1752	0.0587	0.0127	0.0121	0.2587
23	<i>Dalbergia assamica</i>	0.1766	0.0622	0.0106	0.0111	0.2605
24	<i>Tristania rufescens</i>	0.1245	0.0375	0.0143	0.0106	0.1869
25	<i>Albizia odoratissima</i>	0.1222	0.0422	0.0079	0.0080	0.1803
26	<i>Phyllanthus emblica</i>	0.0732	0.0210	0.0104	0.0069	0.1114
27	<i>Diospyros glandulosa</i>	0.0725	0.0218	0.0084	0.0062	0.1089
28	<i>Holarrhena pubescens</i>	0.0707	0.0206	0.0094	0.0064	0.1071
29	<i>Styrax benzoides</i>	0.0518	0.0152	0.0067	0.0046	0.0784
30	<i>Gmelina arborea</i>	0.0486	0.0159	0.0040	0.0035	0.0720
31	<i>Vitex peduncularis</i>	0.0437	0.0128	0.0057	0.0039	0.0661
32	<i>Ampelocissus martinii</i>	0.0349	0.0104	0.0042	0.0030	0.0525
33	<i>Canarium subulatum</i>	0.0278	0.0082	0.0034	0.0024	0.0419
34	<i>Olea salicifolia</i>	0.0267	0.0079	0.0033	0.0024	0.0403
35	<i>Bombax anceps</i>	0.0270	0.0082	0.0030	0.0023	0.0405
36	<i>Eurya nitida</i>	0.0275	0.0087	0.0025	0.0021	0.0408
37	<i>Stereospermum neuranthum</i>	0.0245	0.0073	0.0029	0.0021	0.0369
38	<i>Canarium sp.</i>	0.0070	0.0020	0.0009	0.0006	0.0106
39	<i>Dalbergia foliacea</i>	0.0047	0.0013	0.0007	0.0005	0.0072
40	<i>Rapanea porteriiana</i>	0.0019	0.0005	0.0006	0.0002	0.0031
41	<i>Beilschmiedia gammieana</i>	0.0004	0.0001	0.0001	0.0000	0.0006
	Total	66	27	7	8	108

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				Total
		Stem	Branch	Leaf	Root	
	22 year-old pine plantation					
1	<i>Pinus kesiya</i>	11.3779	5.5261	3.0607	3.6995	23.6642
2	<i>Quercus brandisiana</i>	8.3822	3.0356	0.4608	0.5042	12.3827
3	<i>Quercus vestita</i>	4.0192	1.3269	0.3188	0.2878	5.9527
4	<i>Lithocarpus polystachyus</i>	3.5461	1.2349	0.2253	0.2291	5.2353
5	<i>Dalbergia cultrata</i>	2.6414	0.9202	0.1667	0.1702	3.8985
6	<i>Schima wallichii</i>	2.4743	0.8789	0.1402	0.1526	3.6460
7	<i>Wendlandia tinctoria</i>	2.0978	0.6676	0.1935	0.1612	3.1201
8	<i>Gluta obovata</i>	1.9455	0.7241	0.0961	0.1110	2.8767
9	<i>Lithocarpus elegans</i>	1.8333	0.6051	0.1450	0.1312	2.7145
10	<i>Tristania rufescens</i>	1.4406	0.4723	0.1301	0.1074	2.1504
11	<i>Lithocarpus sootepensis</i>	1.4127	0.4627	0.1168	0.1029	2.0953
12	<i>Castanopsis purpurea</i>	1.3563	0.4366	0.1188	0.1018	2.0136
13	<i>Ficus ribes</i>	1.1114	0.3757	0.0781	0.0756	1.6409
14	<i>Anneslea fragrans</i>	1.0527	0.3518	0.0797	0.0737	1.5580
15	<i>Erythrina subumbrans</i>	0.8415	0.3299	0.0308	0.0426	1.2448
16	<i>Litsea sp.</i>	0.8209	0.2985	0.0423	0.0484	1.2101
17	<i>Aporosa villosa</i>	0.6966	0.2122	0.0776	0.0583	1.0447
18	<i>Glochidion sphaerogynum</i>	0.6330	0.1995	0.0613	0.0497	0.9434
19	<i>Phyllanthus emblica</i>	0.6122	0.1827	0.0741	0.0533	0.9222
20	<i>Craibiodendron stellatum</i>	0.4500	0.1418	0.0440	0.0354	0.6712
21	<i>Ternstroemia gymnanthera</i>	0.4561	0.1493	0.0377	0.0332	0.6764
22	<i>Vaccinium sprengelii</i>	0.3476	0.1040	0.0415	0.0301	0.5232
23	<i>Shorea roxburghii</i>	0.3334	0.1064	0.0309	0.0256	0.4964
24	<i>Syzygium cumini</i>	0.2952	0.0933	0.0287	0.0231	0.4403
25	<i>Semecarpus albescens</i>	0.2792	0.0983	0.0171	0.0177	0.4122
26	<i>Ilex umbellulata</i>	0.2515	0.0876	0.0153	0.0161	0.3705
27	<i>Dalbergia assamica</i>	0.2388	0.0799	0.0174	0.0165	0.3527
28	<i>Eriolaena candollei</i>	0.2266	0.0818	0.0118	0.0135	0.3338
29	<i>Glochidion hirsutum</i>	0.1955	0.0560	0.0283	0.0185	0.2982
30	<i>Engelhardtia serrata</i>	0.1939	0.0598	0.0203	0.0158	0.2899
31	<i>Castanopsis diversifolia</i>	0.1993	0.0675	0.0139	0.0135	0.2942
32	<i>Canarium subulatum</i>	0.1557	0.0549	0.0090	0.0097	0.2293
33	<i>Diospyros glandulosa</i>	0.1533	0.0540	0.0089	0.0096	0.2257
34	<i>Pterospermum acerifolium</i>	0.1465	0.0503	0.0098	0.0097	0.2163
35	<i>Gardenia sootepensis</i>	0.1346	0.0423	0.0128	0.0105	0.2004
36	<i>Spondias bipinnata</i>	0.1077	0.0358	0.0081	0.0076	0.1591
37	<i>Stereospermum neuranthum</i>	0.1073	0.0359	0.0079	0.0075	0.1586
38	<i>Syzygium albiflorum</i>	0.0613	0.0199	0.0051	0.0045	0.0908
39	<i>Viburnum sambucinum</i>	0.0608	0.0193	0.0055	0.0046	0.0902
40	<i>Celastrus paniculata</i>	0.0545	0.0165	0.0061	0.0046	0.0817
41	<i>Lithocarpus lindleyanus</i>	0.0537	0.0168	0.0054	0.0043	0.0801
42	<i>Pavetta tomentosa</i>	0.0499	0.0144	0.0069	0.0046	0.0758
43	<i>Eurya nitida</i>	0.0494	0.0162	0.0039	0.0036	0.0731
44	<i>Vitex peduncularis</i>	0.0479	0.0157	0.0038	0.0035	0.0708
45	<i>Dillenia aurea</i>	0.0409	0.0132	0.0035	0.0030	0.0607
46	<i>Quercus semiserrata</i>	0.0395	0.0119	0.0045	0.0033	0.0592
47	<i>Antidesma acidum</i>	0.0324	0.0090	0.0054	0.0033	0.0501
48	<i>Symplocos racemosa</i>	0.0253	0.0080	0.0024	0.0020	0.0377
49	<i>Dolichandrone serrulata</i>	0.0247	0.0077	0.0024	0.0019	0.0367
50	<i>Beilschmiedia gammieana</i>	0.0241	0.0075	0.0023	0.0019	0.0358
51	<i>Ampelocissus martinii</i>	0.0231	0.0072	0.0022	0.0018	0.0344
52	<i>Engelhardtia spicata</i>	0.0163	0.0048	0.0020	0.0014	0.0246
53	<i>Helicia nilagirica</i>	0.0149	0.0045	0.0016	0.0012	0.0223
54	<i>Gluta usitata</i>	0.0125	0.0036	0.0017	0.0011	0.0190
55	<i>Catunaregam tomentosa</i>	0.0122	0.0037	0.0014	0.0010	0.0183
56	<i>Terminalia chebula</i>	0.0117	0.0033	0.0018	0.0011	0.0179
57	<i>Phoebe lanceolata</i>	0.0086	0.0025	0.0011	0.0008	0.0129
58	<i>Vangueria pubescens</i>	0.0067	0.0019	0.0010	0.0006	0.0102
59	<i>Antidesma sp.</i>	0.0046	0.0012	0.0009	0.0005	0.0072
60	<i>Xantolis cambodiana</i>	0.0023	0.0006	0.0004	0.0002	0.0036
61	<i>Smilax ovalifolia</i>	0.0010	0.0003	0.0002	0.0001	0.0016
	Total	53	20	6	7	86

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>23 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	8.9477	4.4516	2.4059	2.8939	18.6991
2	<i>Quercus vestita</i>	12.2545	4.5783	0.5919	0.6940	18.1188
3	<i>Lithocarpus polystachyus</i>	7.9306	2.9180	0.4052	0.4619	11.7157
4	<i>Schima wallichii</i>	2.9230	1.0782	0.1421	0.1678	4.3111
5	<i>Lithocarpus sootepensis</i>	1.7723	0.6425	0.0995	0.1070	2.6213
6	<i>Lithocarpus elegans</i>	1.2974	0.4471	0.0867	0.0856	1.9169
7	<i>Quercus kingiana</i>	1.2095	0.3982	0.0970	0.0870	1.7917
8	<i>Tristania rufescens</i>	0.9765	0.3075	0.1009	0.0780	1.4628
9	<i>Phyllanthus emblica</i>	0.8334	0.2670	0.0778	0.0638	1.2420
10	<i>Castanopsis purpurea</i>	0.8503	0.3015	0.0497	0.0529	1.2545
11	<i>Protium serratum</i>	0.8110	0.2997	0.0387	0.0462	1.1956
12	<i>Stereospermum neuranthum</i>	0.7137	0.2769	0.0273	0.0369	1.0548
13	<i>Dalbergia assamica</i>	0.6626	0.2184	0.0524	0.0475	0.9808
14	<i>Albizia odoratissima</i>	0.6834	0.2584	0.0307	0.0376	1.0101
15	<i>Craibiodendron stellatum</i>	0.5485	0.1762	0.0528	0.0422	0.8198
16	<i>Vaccinium sprengelii</i>	0.4835	0.1473	0.0558	0.0409	0.7274
17	<i>Lithocarpus fenestratus</i>	0.4581	0.1543	0.0334	0.0315	0.6773
18	<i>Styrax benzoides</i>	0.2786	0.0915	0.0222	0.0201	0.4123
19	<i>Aporosa villosa</i>	0.2720	0.0852	0.0274	0.0216	0.4063
20	<i>Dillenia aurea</i>	0.2834	0.1037	0.0139	0.0164	0.4175
21	<i>Anneslea fragrans</i>	0.2007	0.0648	0.0175	0.0150	0.2980
22	<i>Clausena wallichii</i>	0.1928	0.0643	0.0141	0.0134	0.2847
23	<i>Wendlandia tinctoria</i>	0.1734	0.0535	0.0182	0.0141	0.2593
24	<i>Vangueria pubescens</i>	0.1495	0.0466	0.0147	0.0119	0.2227
25	<i>Syzygium cumini</i>	0.1101	0.0359	0.0090	0.0080	0.1631
26	<i>Castanopsis diversifolia</i>	0.0986	0.0326	0.0075	0.0070	0.1457
27	<i>Celastrus paniculata</i>	0.0793	0.0252	0.0072	0.0061	0.1178
28	<i>Gluta obovata</i>	0.0664	0.0197	0.0084	0.0059	0.1003
29	<i>Glochidion sphaerogynum</i>	0.0605	0.0179	0.0076	0.0054	0.0915
30	<i>Ziziphus oenoplia</i>	0.0376	0.0121	0.0032	0.0028	0.0558
31	<i>Glochidion hirsutum</i>	0.0279	0.0082	0.0037	0.0025	0.0423
32	<i>Symplocos racemosa</i>	0.0249	0.0076	0.0028	0.0021	0.0374
33	<i>Dalbergia foliacea</i>	0.0241	0.0075	0.0023	0.0019	0.0358
34	<i>Gluta usitata</i>	0.0221	0.0064	0.0030	0.0020	0.0335
35	<i>Dalbergia cultrata</i>	0.0214	0.0064	0.0025	0.0018	0.0322
36	<i>Flacourtia indica</i>	0.0197	0.0061	0.0020	0.0016	0.0294
37	<i>Cratoxylum sumatranum</i>	0.0188	0.0058	0.0019	0.0015	0.0281
38	<i>Colona flagrocarpa</i>	0.0161	0.0045	0.0026	0.0016	0.0248
39	<i>Ternstroemia gymnanthera</i>	0.0168	0.0052	0.0018	0.0014	0.0252
40	<i>Lithocarpus lindleyanus</i>	0.0144	0.0044	0.0016	0.0012	0.0216
41	<i>Antidesma acidum</i>	0.0092	0.0026	0.0014	0.0009	0.0141
42	<i>Dolichandrone serrulata</i>	0.0074	0.0021	0.0012	0.0007	0.0114
43	<i>Symplocos henschelii</i>	0.0063	0.0018	0.0009	0.0006	0.0096
44	<i>Semecarpus anacardium</i>	0.0054	0.0015	0.0008	0.0005	0.0082
45	<i>Cratoxylum formosum</i>	0.0053	0.0015	0.0008	0.0005	0.0080
46	<i>Terminalia chebula</i>	0.0038	0.0011	0.0007	0.0004	0.0060
47	<i>Catunaregam tomentosa</i>	0.0025	0.0007	0.0004	0.0003	0.0038
48	<i>Engelhardtia spicata</i>	0.0004	0.0001	0.0001	0.0001	0.0007
49	<i>Turpinia pomifera</i>	0.0004	0.0001	0.0001	0.0000	0.0006
50	<i>Syzygium albiflorum</i>	0.0004	0.0001	0.0001	0.0000	0.0006
	Total	46	18	5	5	73

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>24 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	11.0252	5.2882	2.9665	3.5956	22.8754
2	<i>Castanopsis diversifolia</i>	21.8758	9.3747	0.5742	0.9415	32.7662
3	<i>Schima wallichii</i>	7.3576	2.9335	0.2705	0.3674	10.9290
4	<i>Elaeocarpus sphaericus</i>	5.2696	2.1057	0.1882	0.2607	7.8242
5	<i>Sarcosperma arboreum</i>	3.5997	1.4580	0.1159	0.1716	5.3451
6	<i>Syzygium cumini</i>	3.5574	1.5273	0.0879	0.1507	5.3233
7	<i>Helicia terminalis</i>	1.9082	0.6539	0.1277	0.1267	2.8165
8	<i>Erythrina subumbrans</i>	1.6045	0.6164	0.0649	0.0849	2.3707
9	<i>Glochidion sphaerogynum</i>	1.3811	0.5079	0.0679	0.0797	2.0366
10	<i>Ternstroemia gymnanthera</i>	0.9394	0.3440	0.0465	0.0545	1.3844
11	<i>Betula alnoides</i>	0.9236	0.3642	0.0329	0.0463	1.3670
12	<i>Engelhardtia serrata</i>	0.7568	0.2842	0.0336	0.0418	1.1165
13	<i>Styrax benzoides</i>	0.6216	0.2164	0.0395	0.0402	0.9176
14	<i>Magnolia henryi</i>	0.5430	0.2071	0.0224	0.0290	0.8015
15	<i>Engelhardtia spicata</i>	0.5341	0.2035	0.0221	0.0286	0.7883
16	<i>Dalbergia assamica</i>	0.3128	0.1109	0.0177	0.0193	0.4608
17	<i>Eurya nitida</i>	0.2413	0.0815	0.0194	0.0169	0.3591
18	<i>Dalbergia foliacea</i>	0.1296	0.0421	0.0106	0.0095	0.1918
19	<i>Phyllanthus emblica</i>	0.1072	0.0353	0.0086	0.0077	0.1588
20	<i>Callicarpa arborea</i>	0.0961	0.0329	0.0063	0.0064	0.1417
21	<i>Gmelina arborea</i>	0.0451	0.0147	0.0037	0.0033	0.0667
22	<i>Dolichandrone serrulata</i>	0.0381	0.0123	0.0032	0.0028	0.0565
23	<i>Gluta obovata</i>	0.0374	0.0115	0.0039	0.0030	0.0558
24	<i>Helicia nilagirica</i>	0.0301	0.0096	0.0027	0.0023	0.0447
25	<i>Stereospermum neuranthum</i>	0.0262	0.0082	0.0025	0.0020	0.0389
26	<i>Anneslea fragrans</i>	0.0250	0.0078	0.0024	0.0020	0.0372
27	<i>Wendlandia tinctoria</i>	0.0237	0.0069	0.0032	0.0022	0.0359
28	<i>Syzygium albiflorum</i>	0.0224	0.0067	0.0026	0.0019	0.0336
29	<i>Phoebe paniculata</i>	0.0213	0.0062	0.0030	0.0020	0.0325
30	<i>Holarrhena pubescens</i>	0.0149	0.0045	0.0016	0.0012	0.0224
31	<i>Diospyros glandulosa</i>	0.0091	0.0027	0.0011	0.0008	0.0137
32	<i>Turpinia pomifera</i>	0.0075	0.0022	0.0010	0.0007	0.0114
33	<i>Archidendron clypearia</i>	0.0053	0.0013	0.0013	0.0006	0.0086
34	<i>Pavetta tomentosa</i>	0.0025	0.0006	0.0006	0.0003	0.0040
35	<i>Symplocos sp.</i>	0.0010	0.0003	0.0002	0.0001	0.0016
36	<i>Melastoma sanguineum</i>	0.0007	0.0002	0.0003	0.0001	0.0012
37	<i>Rhus javanica</i>	0.0006	0.0001	0.0002	0.0001	0.0010
38	<i>Morinda tomentosa</i>	0.0005	0.0001	0.0002	0.0001	0.0008
39	<i>Pittosporum nepaulense</i>	0.0005	0.0001	0.0001	0.0001	0.0008
40	<i>Albizia odoratissima</i>	0.0004	0.0001	0.0001	0.0001	0.0007
41	<i>Olea salicifolia</i>	0.0004	0.0001	0.0001	0.0000	0.0006
42	<i>Canarium subulatum</i>	0.0003	0.0001	0.0001	0.0000	0.0005
43	<i>Vernonia volkameriifolia</i>	0.0002	0.0001	0.0001	0.0000	0.0004
44	<i>Acacia megaladena</i>	0.0002	0.0001	0.0001	0.0000	0.0004
45	<i>Lindera metcalfiana</i>	0.0001	0.0000	0.0001	0.0000	0.0002
46	<i>Litsea cubeba</i>	0.0001	0.0000	0.0000	0.0000	0.0001
	Total	63	26	5	6	100

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>25 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	14.3695	7.0065	3.8650	4.6646	29.9056
2	<i>Schima wallichii</i>	7.7681	2.9162	0.3629	0.4348	11.4820
3	<i>Castanopsis diversifolia</i>	4.4535	1.6950	0.1960	0.2425	6.5871
4	<i>Syzygium albiflorum</i>	4.2014	1.8007	0.1108	0.1806	6.2935
5	<i>Castanopsis purpurea</i>	2.8608	1.1995	0.0800	0.1276	4.2678
6	<i>Anneslea fragrans</i>	2.1430	0.7845	0.1124	0.1262	3.1661
7	<i>Castanopsis acuminatissima</i>	1.9256	0.7292	0.0818	0.1044	2.8410
8	<i>Wendlandia tinctoria</i>	1.1483	0.3578	0.1148	0.0917	1.7126
9	<i>Helicia nilagirica</i>	0.7958	0.2688	0.0576	0.0546	1.1768
10	<i>Ternstroemia gymnanthera</i>	0.7340	0.2540	0.0472	0.0478	1.0830
11	<i>Glochidion sphaerogynum</i>	0.7184	0.2535	0.0423	0.0450	1.0592
12	<i>Styrax benzoides</i>	0.5751	0.1891	0.0459	0.0414	0.8515
13	<i>Betula alnoides</i>	0.4809	0.1820	0.0205	0.0261	0.7095
14	<i>Gluta obovata</i>	0.4154	0.1333	0.0371	0.0314	0.6172
15	<i>Ficus ribes</i>	0.3851	0.1326	0.0253	0.0253	0.5683
16	<i>Engelhardtia serrata</i>	0.3671	0.1289	0.0219	0.0232	0.5410
17	<i>Lithocarpus sootepensis</i>	0.3174	0.1086	0.0215	0.0212	0.4687
18	<i>Diospyros glandulosa</i>	0.2877	0.0991	0.0186	0.0188	0.4241
19	<i>Callicarpa arborea</i>	0.2681	0.0978	0.0134	0.0157	0.3949
20	<i>Engelhardtia spicata</i>	0.1991	0.0653	0.0162	0.0144	0.2949
21	<i>Tristania rufescens</i>	0.1914	0.0609	0.0175	0.0147	0.2845
22	<i>Dalbergia foliacea</i>	0.1241	0.0394	0.0114	0.0096	0.1844
23	<i>Dalbergia assamica</i>	0.1128	0.0374	0.0085	0.0080	0.1667
24	<i>Dillenia aurea</i>	0.0940	0.0321	0.0062	0.0063	0.1386
25	<i>Phyllanthus emblica</i>	0.0743	0.0227	0.0080	0.0062	0.1111
26	<i>Magnolia henryi</i>	0.0721	0.0242	0.0051	0.0050	0.1064
27	<i>Phoebe paniculata</i>	0.0658	0.0214	0.0055	0.0048	0.0975
28	<i>Phoebe cathia</i>	0.0591	0.0196	0.0045	0.0042	0.0873
29	<i>Eurya nitida</i>	0.0481	0.0157	0.0038	0.0035	0.0712
30	<i>Gluta usitata</i>	0.0436	0.0135	0.0045	0.0035	0.0651
31	<i>Symplocos sp.</i>	0.0250	0.0078	0.0024	0.0020	0.0372
32	<i>Dolichandrone serrulata</i>	0.0100	0.0029	0.0012	0.0009	0.0150
33	<i>Elaeocarpus sphaericus</i>	0.0078	0.0022	0.0011	0.0007	0.0119
34	<i>Aporosa villosa</i>	0.0068	0.0020	0.0009	0.0006	0.0102
35	<i>Olea salicifolia</i>	0.0016	0.0004	0.0003	0.0002	0.0025
36	<i>Acacia megaladena</i>	0.0004	0.0001	0.0001	0.0001	0.0007
37	<i>Archidendron clypearia</i>	0.0003	0.0001	0.0001	0.0000	0.0005
38	<i>Albizia odoratissima</i>	0.0002	0.0001	0.0001	0.0000	0.0004
39	<i>Pavetta tomentosa</i>	0.0002	0.0000	0.0001	0.0000	0.0003
	Total	45	19	5	6	76

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>26 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	23.1048	12.7513	6.1962	7.1933	49.2456
2	<i>Schima wallichii</i>	17.2893	6.7476	0.6896	0.8985	25.6251
3	<i>Quercus semiserrata</i>	6.8525	3.0662	0.1416	0.2676	10.3279
4	<i>Castanopsis diversifolia</i>	6.7344	2.7720	0.2142	0.3149	10.0355
5	<i>Helicia nilagirica</i>	4.3806	1.7910	0.1348	0.2048	6.5112
6	<i>Syzygium albiflorum</i>	2.5869	1.0687	0.0798	0.1196	3.8551
7	<i>Ternstroemia gymnanthera</i>	2.3928	0.9344	0.0947	0.1238	3.5457
8	<i>Stereospermum neuranthum</i>	2.3128	0.9663	0.0642	0.1034	3.4467
9	<i>Syzygium cumini</i>	1.6424	0.6716	0.0501	0.0766	2.4407
10	<i>Castanopsis purpurea</i>	1.3761	0.5564	0.0440	0.0656	2.0422
11	<i>Dillenia aurea</i>	1.1977	0.4801	0.0398	0.0581	1.7757
12	<i>Phoebe paniculata</i>	1.1392	0.4295	0.0498	0.0625	1.6810
13	<i>Elaeocarpus sphaericus</i>	0.5802	0.2079	0.0314	0.0351	0.8546
14	<i>Engelhardtia spicata</i>	0.5695	0.2011	0.0332	0.0356	0.8394
15	<i>Toona ciliata</i>	0.5223	0.1987	0.0217	0.0281	0.7708
16	<i>Helicia terminalis</i>	0.4135	0.1405	0.0287	0.0279	0.6106
17	<i>Dalbergia assamica</i>	0.3866	0.1314	0.0273	0.0262	0.5714
18	<i>Lithocarpus elegans</i>	0.3403	0.1137	0.0254	0.0237	0.5032
19	<i>Castanopsis acuminatissima</i>	0.3161	0.1129	0.0175	0.0193	0.4658
20	<i>Quercus vestita</i>	0.1601	0.0539	0.0120	0.0111	0.2371
21	<i>Wendlandia tinctoria</i>	0.1387	0.0445	0.0120	0.0104	0.2057
22	<i>Myrica esculenta</i>	0.1218	0.0423	0.0075	0.0078	0.1794
23	<i>Albizia chinensis</i>	0.1029	0.0353	0.0067	0.0068	0.1516
24	<i>Glochidion sphaerogynum</i>	0.0904	0.0281	0.0091	0.0072	0.1348
25	<i>Styrax benzoides</i>	0.0748	0.0252	0.0053	0.0051	0.1104
26	<i>Vaccinium sprengelii</i>	0.0551	0.0173	0.0054	0.0044	0.0821
27	<i>Magnolia elegans</i>	0.0153	0.0046	0.0018	0.0013	0.0230
28	<i>Eurya nitida</i>	0.0130	0.0038	0.0016	0.0012	0.0196
29	<i>Terminalia chebula</i>	0.0075	0.0022	0.0010	0.0007	0.0114
30	<i>Aporosa villosa</i>	0.0015	0.0004	0.0003	0.0002	0.0023
31	<i>Acacia megaladena</i>	0.0002	0.0000	0.0001	0.0000	0.0003
	Total	75	34	8	10	126

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	27 year-old pine plantation					
1	<i>Pinus kesiya</i>	14.1555	7.5003	3.7999	4.4683	29.9240
2	<i>Schima wallichii</i>	27.3587	10.2120	1.2702	1.5363	40.3772
3	<i>Castanopsis diversifolia</i>	2.8743	1.0638	0.1383	0.1640	4.2404
4	<i>Glochidion sphaerogynum</i>	2.7098	0.9624	0.1585	0.1684	3.9991
5	<i>Phoebe paniculata</i>	2.5648	0.9447	0.1296	0.1485	3.7877
6	<i>Elaeocarpus sphaericus</i>	2.3532	0.8677	0.1138	0.1349	3.4696
7	<i>Dalbergia velutina</i>	1.8377	0.5969	0.1540	0.1353	2.7239
8	<i>Betula alnoides</i>	1.7735	0.6976	0.0639	0.0892	2.6243
9	<i>Buchanania lanzan</i>	1.6454	0.6455	0.0608	0.0835	2.4353
10	<i>Castanopsis purpurea</i>	1.5156	0.5683	0.0677	0.0839	2.2355
11	<i>Wendlandia tinctoria</i>	1.1331	0.3862	0.0786	0.0762	1.6741
12	<i>Lithocarpus elegans</i>	0.7407	0.2494	0.0539	0.0510	1.0949
13	<i>Syzygium albiflorum</i>	0.6117	0.2190	0.0352	0.0376	0.9034
14	<i>Styrax benzoides</i>	0.3916	0.1387	0.0245	0.0247	0.5795
15	<i>Albizia odoratissima</i>	0.3912	0.1456	0.0183	0.0220	0.5771
16	<i>Eurya nitida</i>	0.3434	0.1218	0.0214	0.0216	0.5081
17	<i>Helicia terminalis</i>	0.3113	0.1047	0.0231	0.0216	0.4607
18	<i>Quercus brandisiana</i>	0.3004	0.1103	0.0145	0.0173	0.4425
19	<i>Symplocos racemosa</i>	0.2754	0.0942	0.0183	0.0183	0.4062
20	<i>Castanopsis acuminatissima</i>	0.2601	0.0947	0.0131	0.0152	0.3830
21	<i>Cleidion spiciflorum</i>	0.2063	0.0708	0.0133	0.0135	0.3040
22	<i>Symplocos sp.</i>	0.1675	0.0565	0.0121	0.0115	0.2475
23	<i>Lithocarpus fenestratus</i>	0.1338	0.0438	0.0107	0.0097	0.1979
24	<i>Colona flagrocarpa</i>	0.1110	0.0383	0.0070	0.0072	0.1636
25	<i>Memecylon edule</i>	0.0937	0.0301	0.0082	0.0071	0.1390
26	<i>Syzygium cumini</i>	0.0895	0.0304	0.0061	0.0060	0.1320
27	<i>Mallotus paniculatus</i>	0.0708	0.0175	0.0192	0.0089	0.1164
28	<i>Markhamia pierreii</i>	0.0766	0.0257	0.0056	0.0053	0.1132
29	<i>Engelhardtia spicata</i>	0.0619	0.0198	0.0055	0.0047	0.0918
30	<i>Lithocarpus garrettianus</i>	0.0491	0.0160	0.0041	0.0036	0.0728
31	<i>Semecarpus albescens</i>	0.0459	0.0150	0.0037	0.0033	0.0679
32	<i>Helicia nilagirica</i>	0.0435	0.0136	0.0042	0.0034	0.0648
33	<i>Neolitsea zeylanica</i>	0.0272	0.0068	0.0073	0.0034	0.0447
34	<i>Myrica esculenta</i>	0.0285	0.0087	0.0033	0.0024	0.0429
35	<i>Anneslea fragrans</i>	0.0265	0.0083	0.0026	0.0021	0.0394
36	<i>Phoebe lanceolata</i>	0.0092	0.0024	0.0020	0.0010	0.0146
37	<i>Catunaregam tomentosa</i>	0.0066	0.0015	0.0024	0.0010	0.0115
38	<i>Phyllanthus emblica</i>	0.0062	0.0017	0.0012	0.0007	0.0097
39	<i>Archidendron clypearia</i>	0.0046	0.0011	0.0013	0.0006	0.0076
40	<i>Artocarpus sp.</i>	0.0043	0.0011	0.0009	0.0005	0.0069
41	<i>Blumea balsamifera</i>	0.0024	0.0006	0.0007	0.0003	0.0041
42	<i>Memecylon celastrinum</i>	0.0024	0.0006	0.0007	0.0003	0.0040
43	<i>Cinnamomum iners</i>	0.0024	0.0006	0.0007	0.0003	0.0039
44	<i>Litsea cubeba</i>	0.0022	0.0006	0.0006	0.0003	0.0037
45	<i>Mussaenda sanderiana</i>	0.0019	0.0004	0.0007	0.0003	0.0034
46	<i>Turpinia cochinchinensis</i>	0.0018	0.0005	0.0004	0.0002	0.0028
47	<i>Vernonia volkameriifolia</i>	0.0015	0.0004	0.0004	0.0002	0.0024
48	<i>Diospyros glandulosa</i>	0.0013	0.0003	0.0004	0.0002	0.0022
49	<i>Euodia roxburghiana</i>	0.0012	0.0003	0.0005	0.0002	0.0022
50	<i>Melastoma sanguineum</i>	0.0011	0.0003	0.0003	0.0001	0.0018
51	<i>Milletia pachycarpa</i>	0.0010	0.0002	0.0004	0.0002	0.0018
52	<i>Ternstroemia gymnanthera</i>	0.0009	0.0002	0.0002	0.0001	0.0014
53	<i>Rhus javanica</i>	0.0008	0.0002	0.0003	0.0001	0.0013
54	<i>Glochidion arborescens</i>	0.0007	0.0002	0.0002	0.0001	0.0012
55	<i>Albizia chinensis</i>	0.0007	0.0002	0.0002	0.0001	0.0012
56	<i>Lindera metcalfiana</i>	0.0006	0.0001	0.0002	0.0001	0.0010
57	<i>Canthium sp.</i>	0.0005	0.0001	0.0001	0.0001	0.0009
58	<i>Kydia calycina</i>	0.0005	0.0001	0.0001	0.0001	0.0009
59	<i>Engelhardtia serrata</i>	0.0005	0.0001	0.0001	0.0001	0.0008
60	<i>Acacia megaladena</i>	0.0004	0.0001	0.0001	0.0001	0.0006
61	<i>Magnolia henryi</i>	0.0004	0.0001	0.0001	0.0000	0.0006
62	<i>Artocarpus lacucha</i>	0.0004	0.0001	0.0001	0.0000	0.0006
63	<i>Viburnum sambucinum</i>	0.0004	0.0001	0.0001	0.0000	0.0006
64	<i>Acacia pennata</i>	0.0003	0.0001	0.0001	0.0001	0.0006
65	<i>Syzygium sp.</i>	0.0003	0.0001	0.0001	0.0000	0.0005
66	<i>Antidesma acidum</i>	0.0003	0.0001	0.0001	0.0000	0.0005
67	<i>Craibiodendron stellatum</i>	0.0002	0.0001	0.0001	0.0000	0.0004
68	<i>Antiaris toxicaria</i>	0.0001	0.0000	0.0001	0.0000	0.0003
69	<i>Gluta obovata</i>	0.0001	0.0000	0.0001	0.0000	0.0002
70	<i>Ficus callosa</i>	0.0001	0.0000	0.0000	0.0000	0.0002
	Total	65	26	6	7	105

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>28 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	16.1310	9.3741	4.3207	4.9371	34.7628
2	<i>Schima wallichii</i>	11.6951	4.4841	0.4776	0.6210	17.2777
3	<i>Engelhardtia spicata</i>	1.3782	0.5027	0.0716	0.0812	2.0337
4	<i>Glochidion sphaerogynum</i>	1.2292	0.4426	0.0678	0.0744	1.8141
5	<i>Markhamia stipulata</i>	0.6811	0.2389	0.0404	0.0430	1.0034
6	<i>Castanopsis diversifolia</i>	0.6542	0.2367	0.0354	0.0392	0.9655
7	<i>Entada rheedii</i>	0.5707	0.2183	0.0232	0.0303	0.8425
8	<i>Colona flagrocarpa</i>	0.4401	0.1655	0.0193	0.0242	0.6492
9	<i>Stereospermum neuranthum</i>	0.2865	0.1013	0.0167	0.0179	0.4224
10	<i>Castanopsis purpurea</i>	0.2825	0.1034	0.0139	0.0164	0.4162
11	<i>Erythrina subumbrans</i>	0.1066	0.0348	0.0088	0.0078	0.1580
12	<i>Gmelina arborea</i>	0.0972	0.0309	0.0092	0.0075	0.1448
13	<i>Dalbergia foliacea</i>	0.0754	0.0236	0.0074	0.0060	0.1123
14	<i>Vaccinium sprengelii</i>	0.0764	0.0257	0.0054	0.0052	0.1127
15	<i>Dalbergia assamica</i>	0.0606	0.0193	0.0055	0.0046	0.0900
16	<i>Phyllanthus emblica</i>	0.0461	0.0143	0.0048	0.0037	0.0689
17	<i>Albizia odoratissima</i>	0.0451	0.0147	0.0037	0.0033	0.0668
18	<i>Syzygium albiflorum</i>	0.0421	0.0135	0.0038	0.0032	0.0626
19	<i>Litsea cubeba</i>	0.0296	0.0078	0.0063	0.0033	0.0470
20	<i>Ficus ribes</i>	0.0281	0.0082	0.0038	0.0026	0.0427
21	<i>Diospyros glandulosa</i>	0.0122	0.0033	0.0023	0.0013	0.0191
22	<i>Musa acuminata</i>	0.0076	0.0022	0.0010	0.0007	0.0116
23	<i>Archidendron clypearia</i>	0.0066	0.0018	0.0011	0.0007	0.0101
24	<i>Phoebe paniculata</i>	0.0050	0.0013	0.0012	0.0006	0.0080
25	<i>Wendlandia tinctoria</i>	0.0035	0.0009	0.0009	0.0004	0.0057
26	<i>Vernonia volkamerifolia</i>	0.0035	0.0009	0.0008	0.0004	0.0056
27	<i>Horsfieldia tomentosa</i>	0.0023	0.0006	0.0004	0.0002	0.0036
28	<i>Rhus javanica</i>	0.0020	0.0005	0.0005	0.0002	0.0032
29	<i>Phoebe lanceolata</i>	0.0013	0.0003	0.0003	0.0002	0.0022
30	<i>Acacia megaladena</i>	0.0005	0.0001	0.0001	0.0001	0.0009
31	<i>Eriolaena candollei</i>	0.0005	0.0001	0.0001	0.0001	0.0009
32	<i>Melastoma sanguineum</i>	0.0005	0.0001	0.0002	0.0001	0.0009
33	<i>Litsea monopetala</i>	0.0004	0.0001	0.0001	0.0000	0.0006
34	<i>Syzygium cumini</i>	0.0004	0.0001	0.0001	0.0000	0.0006
35	<i>Aporosa villosa</i>	0.0004	0.0001	0.0001	0.0000	0.0006
	Total	34	16	5	6	61

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>29 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	9.0103	4.5556	2.4215	2.8905	18.8779
2	<i>Castanopsis purpurea</i>	5.9132	2.2390	0.2762	0.3285	8.7570
3	<i>Schima wallichii</i>	5.0251	1.9292	0.2099	0.2677	7.4320
4	<i>Helicia terminalis</i>	3.5118	1.2572	0.1952	0.2141	5.1782
5	<i>Anneslea fragrans</i>	2.1951	0.8901	0.0707	0.1045	3.2603
6	<i>Quercus vestita</i>	1.0053	0.3705	0.0488	0.0577	1.4823
7	<i>Castanopsis diversifolia</i>	0.8793	0.3394	0.0366	0.0465	1.3018
8	<i>Helicia nilagirica</i>	0.7779	0.2875	0.0387	0.0448	1.1490
9	<i>Toona ciliata</i>	0.6324	0.2333	0.0302	0.0361	0.9321
10	<i>Myrica esculenta</i>	0.5702	0.1982	0.0360	0.0368	0.8413
11	<i>Engelhardtia spicata</i>	0.4779	0.1766	0.0234	0.0274	0.7053
12	<i>Wendlandia tinctoria</i>	0.3228	0.0975	0.0368	0.0274	0.4845
13	<i>Eriolaena candollei</i>	0.3200	0.1148	0.0174	0.0194	0.4717
14	<i>Erythrina subumbrans</i>	0.3107	0.1144	0.0149	0.0178	0.4577
15	<i>Cycas pectinata</i>	0.1901	0.0633	0.0140	0.0133	0.2807
16	<i>Acacia megaladena</i>	0.1206	0.0407	0.0086	0.0082	0.1781
17	<i>Camellia pleurocarpa</i>	0.0981	0.0329	0.0072	0.0068	0.1450
18	<i>Phyllanthus emblica</i>	0.0930	0.0300	0.0082	0.0070	0.1382
19	<i>Ternstroemia gymnanthera</i>	0.0863	0.0293	0.0059	0.0058	0.1272
20	<i>Tadehagi triquetrum</i>	0.0601	0.0196	0.0050	0.0044	0.0890
21	<i>Lithocarpus elegans</i>	0.0404	0.0131	0.0034	0.0030	0.0598
22	<i>Dalbergia foliacea</i>	0.0329	0.0105	0.0029	0.0025	0.0488
23	<i>Morinda tomentosa</i>	0.0250	0.0078	0.0024	0.0020	0.0372
24	<i>Pterospermum acerifolium</i>	0.0221	0.0069	0.0022	0.0018	0.0329
25	<i>Glochidion sphaerogynum</i>	0.0156	0.0048	0.0017	0.0013	0.0234
26	<i>Blunea balsamifera</i>	0.0116	0.0031	0.0022	0.0012	0.0181
27	<i>Glochidion hirsutum</i>	0.0112	0.0033	0.0013	0.0010	0.0168
28	<i>Catunaregam tomentosa</i>	0.0068	0.0019	0.0011	0.0007	0.0105
29	<i>Antidesma acidum</i>	0.0067	0.0019	0.0009	0.0006	0.0102
30	<i>Melastoma sanguineum</i>	0.0035	0.0009	0.0009	0.0004	0.0057
31	<i>Litsea cubeba</i>	0.0005	0.0001	0.0001	0.0001	0.0009
32	<i>Syzygium cumini</i>	0.0002	0.0000	0.0001	0.0000	0.0003
	Total	32	13	4	4	53

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>30 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	15.9789	9.1080	4.2820	4.9251	34.2940
2	<i>Castanopsis diversifolia</i>	12.9834	5.6744	0.3319	0.5447	19.5344
3	<i>Schima wallichii</i>	12.1782	4.4702	0.6061	0.7062	17.9607
4	<i>Castanopsis purpurea</i>	4.0044	1.5366	0.1618	0.2120	5.9148
5	<i>Dalbergia assamica</i>	3.0718	1.1412	0.1486	0.1749	4.5365
6	<i>Engelhardtia spicata</i>	2.7249	0.9981	0.1385	0.1591	4.0206
7	<i>Lithocarpus elegans</i>	2.2469	0.7931	0.1313	0.1405	3.3117
8	<i>Canarium subulatum</i>	0.4549	0.1715	0.0197	0.0249	0.6709
9	<i>Dolichandrone serrulata</i>	0.4121	0.1480	0.0224	0.0249	0.6074
10	<i>Myrica esculenta</i>	0.4098	0.1471	0.0219	0.0247	0.6036
11	<i>Sapindus rarak</i>	0.3254	0.1201	0.0154	0.0185	0.4794
12	<i>Albizia odoratissima</i>	0.2644	0.0931	0.0159	0.0167	0.3902
13	<i>Symplocos sp.</i>	0.2433	0.0882	0.0125	0.0144	0.3583
14	<i>Garuga pinnata</i>	0.2302	0.0832	0.0120	0.0137	0.3391
15	<i>Elaeocarpus sphaericus</i>	0.1804	0.0621	0.0117	0.0118	0.2660
16	<i>Wendlandia tinctoria</i>	0.1286	0.0406	0.0121	0.0100	0.1914
17	<i>Gluta obovata</i>	0.1212	0.0395	0.0099	0.0088	0.1794
18	<i>Blumea balsamifera</i>	0.1146	0.0396	0.0072	0.0074	0.1689
19	<i>Markhamia stipulata</i>	0.1097	0.0368	0.0081	0.0076	0.1622
20	<i>Colona flagrocarpa</i>	0.0795	0.0258	0.0066	0.0058	0.1177
21	<i>Gluta usitata</i>	0.0728	0.0233	0.0065	0.0055	0.1081
22	<i>Engelhardtia serrata</i>	0.0495	0.0162	0.0039	0.0036	0.0732
23	<i>Gmelina arborea</i>	0.0421	0.0134	0.0038	0.0032	0.0625
24	<i>Aporosa villosa</i>	0.0341	0.0109	0.0030	0.0026	0.0505
25	<i>Magnolia henryi</i>	0.0320	0.0099	0.0033	0.0026	0.0478
26	<i>Castanopsis acuminatissima</i>	0.0199	0.0062	0.0020	0.0016	0.0297
27	<i>Vaccinium sprengelii</i>	0.0185	0.0057	0.0019	0.0015	0.0276
28	<i>Erythrina subumbrans</i>	0.0181	0.0056	0.0019	0.0015	0.0271
29	<i>Acacia megaladena</i>	0.0166	0.0051	0.0018	0.0014	0.0248
30	<i>Symplocos racemosa</i>	0.0102	0.0029	0.0015	0.0010	0.0156
31	<i>Phyllanthus emblica</i>	0.0092	0.0025	0.0015	0.0009	0.0141
32	<i>Syzygium albiflorum</i>	0.0078	0.0022	0.0011	0.0007	0.0119
33	<i>Morinda tomentosa</i>	0.0025	0.0007	0.0004	0.0003	0.0039
34	<i>Phoebe paniculata</i>	0.0016	0.0004	0.0003	0.0002	0.0025
35	<i>Camellia pleurocarpa</i>	0.0009	0.0002	0.0002	0.0001	0.0014
36	<i>Lithocarpus sootepensis</i>	0.0004	0.0001	0.0001	0.0000	0.0006
	Total	57	25	6	7	95

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	31 year-old pine plantation					
1	<i>Pinus kesiya</i>	9.2319	5.3858	2.4726	2.8240	19.9143
2	<i>Castanopsis diversifolia</i>	23.2823	9.1685	0.8887	1.1874	34.5270
3	<i>Schima wallichii</i>	18.0499	6.9305	0.7651	0.9659	26.7114
4	<i>Castanopsis acuminatissima</i>	7.8320	3.0938	0.2835	0.3930	11.6023
5	<i>Syzygium albiflorum</i>	4.5924	1.9681	0.1236	0.1983	6.8825
6	<i>Wendlandia tinctoria</i>	4.1025	1.3552	0.3219	0.2929	6.0725
7	<i>Myrica esculenta</i>	1.8359	0.6729	0.0913	0.1066	2.7067
8	<i>Olea salicifolia</i>	1.8056	0.7110	0.0648	0.0907	2.6720
9	<i>Syzygium cumini</i>	1.8079	0.7412	0.0555	0.0842	2.6888
10	<i>Helicia terminalis</i>	1.6906	0.5986	0.0991	0.1055	2.4937
11	<i>Elaeocarpus sphaericus</i>	1.0146	0.3639	0.0564	0.0617	1.4966
12	<i>Ternstroemia gymnanthera</i>	0.9645	0.3610	0.0452	0.0541	1.4249
13	<i>Dalbergia cultrata</i>	0.8917	0.3359	0.0387	0.0489	1.3152
14	<i>Canarium subulatum</i>	0.8027	0.3003	0.0359	0.0446	1.1835
15	<i>Docynia indica</i>	0.4776	0.1699	0.0268	0.0294	0.7037
16	<i>Symplocos sp.</i>	0.3985	0.1375	0.0255	0.0260	0.5874
17	<i>Phoebe paniculata</i>	0.3932	0.1404	0.0217	0.0240	0.5792
18	<i>Anneslea fragrans</i>	0.3810	0.1292	0.0263	0.0257	0.5622
19	<i>Phyllanthus emblica</i>	0.2780	0.0894	0.0242	0.0209	0.4125
20	<i>Rapanea porteriiana</i>	0.2217	0.0721	0.0183	0.0162	0.3284
21	<i>Eurya nitida</i>	0.1999	0.0691	0.0127	0.0130	0.2947
22	<i>Gluta obovata</i>	0.1913	0.0655	0.0132	0.0128	0.2828
23	<i>Engelhardtia spicata</i>	0.1299	0.0418	0.0114	0.0098	0.1929
24	<i>Diospyros glandulosa</i>	0.1091	0.0366	0.0079	0.0075	0.1612
25	<i>Helicia nilagirica</i>	0.1060	0.0354	0.0080	0.0074	0.1568
26	<i>Gochmatia decora</i>	0.0995	0.0341	0.0065	0.0066	0.1467
27	<i>Styrax benzoides</i>	0.0721	0.0242	0.0051	0.0050	0.1064
28	<i>Albizia odoratissima</i>	0.0704	0.0236	0.0051	0.0048	0.1038
29	<i>Betula alnoides</i>	0.0686	0.0229	0.0050	0.0047	0.1012
30	<i>Glochidion sphaerogynum</i>	0.0519	0.0171	0.0041	0.0037	0.0768
31	<i>Memecylon celastrinum</i>	0.0492	0.0151	0.0054	0.0041	0.0738
32	<i>Lithocarpus thomsonii</i>	0.0404	0.0131	0.0034	0.0030	0.0598
33	<i>Ardisia attenuata</i>	0.0335	0.0107	0.0029	0.0025	0.0497
34	<i>Turpinia pomifera</i>	0.0197	0.0061	0.0020	0.0016	0.0293
35	<i>Eriolaena candollei</i>	0.0044	0.0012	0.0007	0.0004	0.0068
36	<i>Ficus tinctoria</i>	0.0032	0.0009	0.0005	0.0003	0.0049
37	<i>Ficus maclellandii</i>	0.0004	0.0001	0.0001	0.0001	0.0007
38	<i>Acacia megaladena</i>	0.0004	0.0001	0.0001	0.0000	0.0006
39	<i>Erythrina subumbrans</i>	0.0001	0.0000	0.0001	0.0000	0.0002
	Total	81	33	6	7	127

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>32 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	18.1357	10.0999	4.8624	5.6259	38.7240
2	<i>Schima wallichii</i>	21.4637	8.4981	0.7829	1.0765	31.8211
3	<i>Syzygium cumini</i>	8.1644	3.6939	0.1609	0.3120	12.3312
4	<i>Castanopsis acuminatissima</i>	6.0746	2.3715	0.2268	0.3105	8.9834
5	<i>Phoebe paniculata</i>	2.4103	0.9890	0.0743	0.1123	3.5859
6	<i>Xanthophyllum virens</i>	1.7683	0.6835	0.0711	0.0929	2.6157
7	<i>Elaeocarpus sphaericus</i>	1.4159	0.5182	0.0705	0.0823	2.0870
8	<i>Magnolia henryi</i>	1.3786	0.5527	0.0467	0.0671	2.0452
9	<i>Castanopsis tribuloides</i>	1.1213	0.4285	0.0458	0.0597	1.6553
10	<i>Knema erratica</i>	0.9795	0.3876	0.0344	0.0487	1.4501
11	<i>Betula alnoides</i>	0.8195	0.3207	0.0302	0.0417	1.2120
12	<i>Albizia chinensis</i>	0.6729	0.2601	0.0261	0.0350	0.9942
13	<i>Engelhardtia spicata</i>	0.5040	0.1831	0.0256	0.0296	0.7423
14	<i>Erythrina subumbrans</i>	0.4534	0.1709	0.0196	0.0248	0.6688
15	<i>Myrica esculenta</i>	0.3225	0.1137	0.0189	0.0202	0.4752
16	<i>Glochidion sphaerogynum</i>	0.2642	0.0942	0.0152	0.0163	0.3898
17	<i>Symplocos sp.</i>	0.2480	0.0900	0.0126	0.0146	0.3653
18	<i>Anneslea fragrans</i>	0.2367	0.0856	0.0122	0.0140	0.3486
19	<i>Styrax benzoides</i>	0.1869	0.0629	0.0134	0.0128	0.2760
20	<i>Luvunga scandens</i>	0.1338	0.0467	0.0081	0.0085	0.1971
21	<i>Musa acuminata</i>	0.0844	0.0271	0.0074	0.0064	0.1254
22	<i>Syzygium sp.</i>	0.0837	0.0279	0.0065	0.0059	0.1241
23	<i>Gmelina arborea</i>	0.0404	0.0131	0.0034	0.0030	0.0598
24	<i>Eurya nitida</i>	0.0385	0.0124	0.0033	0.0029	0.0571
25	<i>Syzygium albiflorum</i>	0.0216	0.0060	0.0035	0.0021	0.0333
26	<i>Memecylon celastrinum</i>	0.0202	0.0063	0.0020	0.0016	0.0301
27	<i>Wendlandia tinctoria</i>	0.0161	0.0046	0.0023	0.0015	0.0245
28	<i>Phyllanthus emblica</i>	0.0106	0.0030	0.0015	0.0010	0.0162
29	<i>Olea salicifolia</i>	0.0079	0.0023	0.0010	0.0007	0.0120
30	<i>Syzygium sp.</i>	0.0068	0.0020	0.0009	0.0006	0.0102
31	<i>Milletia pachycarpa</i>	0.0038	0.0010	0.0007	0.0004	0.0059
32	<i>Litsea cubeba</i>	0.0018	0.0004	0.0007	0.0003	0.0031
33	<i>Albizia odoratissima</i>	0.0010	0.0003	0.0002	0.0001	0.0016
34	<i>Trichilla connaroides</i>	0.0004	0.0001	0.0001	0.0000	0.0006
	Total	67	30	7	8	111

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	33 year-old pine plantation					
1	<i>Pinus kesiya</i>	26.8896	15.9161	7.1990	8.1759	58.1806
2	<i>Musa acuminata</i>	1.9749	0.5992	0.2224	0.1664	2.9629
3	<i>Wendlandia tinctoria</i>	1.6082	0.6557	0.0504	0.0756	2.3898
4	<i>Cinnamomum iners</i>	1.1837	0.4421	0.0536	0.0660	1.7454
5	<i>Albizia chinensis</i>	0.6749	0.2609	0.0262	0.0351	0.9971
6	<i>Magnolia henryi</i>	0.5967	0.2283	0.0246	0.0318	0.8814
7	<i>Mallotus barbatus</i>	0.2632	0.0888	0.0203	0.0183	0.3907
8	<i>Dalbergia oliveri</i>	0.0696	0.0233	0.0050	0.0048	0.1027
9	<i>Litsea cubeba</i>	0.0390	0.0107	0.0070	0.0041	0.0607
10	<i>Glochidion acuminatum</i>	0.0407	0.0120	0.0053	0.0036	0.0616
11	<i>Ilex umbellulata</i>	0.0361	0.0116	0.0031	0.0027	0.0535
12	<i>Melastoma sanguineum</i>	0.0192	0.0052	0.0035	0.0020	0.0300
13	<i>Grewia laevigata</i>	0.0162	0.0049	0.0019	0.0014	0.0244
14	<i>Ficus ribes</i>	0.0141	0.0038	0.0026	0.0015	0.0220
15	<i>Tadehagi triquetrum</i>	0.0129	0.0034	0.0027	0.0014	0.0204
16	<i>Artocarpus lacucha</i>	0.0129	0.0034	0.0026	0.0014	0.0204
17	<i>Laportea bulbifera</i>	0.0126	0.0035	0.0021	0.0013	0.0195
18	<i>Sapindus rarak</i>	0.0114	0.0031	0.0021	0.0012	0.0178
19	<i>Saurauia napaulensis</i>	0.0100	0.0024	0.0028	0.0013	0.0164
20	<i>Archidendron clypearia</i>	0.0095	0.0026	0.0016	0.0010	0.0148
21	<i>Horsfieldia tomentosa</i>	0.0095	0.0027	0.0014	0.0009	0.0145
22	<i>Phoebe cathia</i>	0.0089	0.0026	0.0013	0.0008	0.0136
23	<i>Ficus sp.</i>	0.0082	0.0023	0.0013	0.0008	0.0126
24	<i>Lindera metcalfiana</i>	0.0063	0.0016	0.0013	0.0007	0.0099
25	<i>Mussaenda sanderiana</i>	0.0055	0.0014	0.0013	0.0006	0.0089
26	<i>Milletia pachycarpa</i>	0.0057	0.0016	0.0010	0.0006	0.0089
27	<i>Alangium chinensis</i>	0.0057	0.0016	0.0009	0.0006	0.0087
28	<i>Neolitsea zeylanica</i>	0.0046	0.0012	0.0011	0.0005	0.0074
29	<i>Myrica esculenta</i>	0.0030	0.0008	0.0006	0.0003	0.0048
30	<i>Trevesia palmata</i>	0.0030	0.0008	0.0006	0.0003	0.0047
31	<i>Litsea monopetala</i>	0.0027	0.0007	0.0005	0.0003	0.0042
32	<i>Aegialitis rotundifolia</i>	0.0026	0.0007	0.0006	0.0003	0.0041
33	<i>Nyssa javanica</i>	0.0021	0.0005	0.0008	0.0003	0.0037
34	<i>Schima wallichii</i>	0.0021	0.0005	0.0005	0.0003	0.0035
35	<i>Ardisia attenuata</i>	0.0021	0.0006	0.0005	0.0002	0.0034
36	<i>Bridelia retusa</i>	0.0019	0.0005	0.0005	0.0002	0.0031
37	<i>Sorbus granulosa</i>	0.0020	0.0005	0.0004	0.0002	0.0031
38	<i>Phoebe paniculata</i>	0.0018	0.0005	0.0004	0.0002	0.0029
39	<i>Ampelocissus martinii</i>	0.0016	0.0004	0.0004	0.0002	0.0027
40	<i>Rauvolfia cambodiana</i>	0.0010	0.0002	0.0003	0.0001	0.0017
41	<i>Desmodium megaphyllum</i>	0.0007	0.0002	0.0003	0.0001	0.0013
42	<i>Eurya nitida</i>	0.0008	0.0002	0.0002	0.0001	0.0012
43	<i>Tetrastigma quadrangulatum</i>	0.0007	0.0002	0.0002	0.0001	0.0012
44	<i>Canthium berberidifolium</i>	0.0007	0.0002	0.0002	0.0001	0.0011
45	<i>Rubus rugosus</i>	0.0006	0.0001	0.0002	0.0001	0.0010
46	<i>Terminalia chebula</i>	0.0005	0.0001	0.0001	0.0001	0.0009
47	<i>Macaranga kurzii</i>	0.0004	0.0001	0.0001	0.0000	0.0006
48	<i>Glochidion hirsutum</i>	0.0002	0.0001	0.0001	0.0000	0.0004
49	<i>Turpinia cochinchinensis</i>	0.0002	0.0001	0.0001	0.0000	0.0004
50	<i>Ficus hispida</i>	0.0002	0.0001	0.0001	0.0000	0.0004
51	<i>Gaultheria notabilis</i>	0.0001	0.0000	0.0001	0.0000	0.0002
52	<i>Stereospermum neuranthum</i>	0.0001	0.0000	0.0001	0.0000	0.0002
53	<i>Fraxinus floribunda</i>	0.0001	0.0000	0.0000	0.0000	0.0002
	Total	34	18	8	9	68

Table 3-6 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>34 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	12.3445	6.9961	3.3087	3.8159	26.4652
2	<i>Castanopsis purpurea</i>	25.6486	9.7329	1.1247	1.3994	37.9056
3	<i>Quercus vestita</i>	11.6678	4.6461	0.4091	0.5765	17.2994
4	<i>Schima wallichii</i>	8.4059	3.4070	0.2724	0.4009	12.4862
5	<i>Quercus brandisiana</i>	5.6677	2.1339	0.2581	0.3143	8.3740
6	<i>Syzygium cumini</i>	2.7641	1.1680	0.0731	0.1208	4.1260
7	<i>Wendlandia tinctoria</i>	1.4017	0.4587	0.1141	0.1018	2.0762
8	<i>Dalbergia assamica</i>	1.3068	0.4697	0.0762	0.0802	1.9329
9	<i>Viburnum sambucinum</i>	0.7188	0.2760	0.0295	0.0381	1.0624
10	<i>Aporosa villosa</i>	0.5848	0.1910	0.0485	0.0427	0.8671
11	<i>Glochidion sphaerogynum</i>	0.4737	0.1642	0.0315	0.0311	0.7005
12	<i>Craibiodendron stellatum</i>	0.3603	0.1227	0.0257	0.0244	0.5332
13	<i>Lithocarpus elegans</i>	0.3377	0.1221	0.0182	0.0202	0.4982
14	<i>Albizia odoratissima</i>	0.3135	0.1046	0.0230	0.0218	0.4630
15	<i>Phyllanthus emblica</i>	0.2496	0.0729	0.0337	0.0228	0.3790
16	<i>Cycas pectinata</i>	0.2119	0.0711	0.0155	0.0147	0.3132
17	<i>Lithocarpus sootepensis</i>	0.2058	0.0738	0.0110	0.0124	0.3031
18	<i>Stereospermum colias</i>	0.1843	0.0656	0.0102	0.0113	0.2714
19	<i>Vaccinium sprengelii</i>	0.1303	0.0445	0.0091	0.0088	0.1926
20	<i>Glochidion hirsutum</i>	0.1249	0.0391	0.0123	0.0099	0.1862
21	<i>Eriolaena candollei</i>	0.1222	0.0391	0.0109	0.0093	0.1815
22	<i>Horsfieldia tomentosa</i>	0.0509	0.0167	0.0040	0.0036	0.0752
23	<i>Albizia chinensis</i>	0.0363	0.0117	0.0031	0.0027	0.0537
24	<i>Canarium subulatum</i>	0.0332	0.0106	0.0029	0.0025	0.0492
25	<i>Anneslea fragrans</i>	0.0276	0.0083	0.0031	0.0023	0.0414
26	<i>Pavetta tomentosa</i>	0.0227	0.0069	0.0026	0.0019	0.0341
27	<i>Helicia nilagirica</i>	0.0183	0.0055	0.0021	0.0016	0.0275
28	<i>Styrax benzoides</i>	0.0177	0.0054	0.0020	0.0015	0.0265
29	<i>Diospyros glandulosa</i>	0.0156	0.0048	0.0017	0.0013	0.0234
30	<i>Gluta usitata</i>	0.0156	0.0048	0.0017	0.0013	0.0234
31	<i>Antidesma acidum</i>	0.0129	0.0036	0.0020	0.0013	0.0198
32	<i>Dalbergia cultrata</i>	0.0114	0.0034	0.0013	0.0010	0.0172
33	<i>Phoebe paniculata</i>	0.0095	0.0026	0.0015	0.0009	0.0146
34	<i>Canthium sp.</i>	0.0092	0.0025	0.0016	0.0010	0.0143
35	<i>Engelhardtia spicata</i>	0.0084	0.0023	0.0014	0.0008	0.0129
36	<i>Protium serratum</i>	0.0041	0.0010	0.0010	0.0005	0.0067
37	<i>Dillenia aurea</i>	0.0037	0.0010	0.0007	0.0004	0.0057
38	<i>Syzygium albiflorum</i>	0.0031	0.0008	0.0007	0.0004	0.0049
39	<i>Rhus javanica</i>	0.0016	0.0004	0.0004	0.0002	0.0026
40	<i>Tristania rufescens</i>	0.0012	0.0003	0.0003	0.0001	0.0019
41	<i>Symplocos racemosa</i>	0.0011	0.0003	0.0002	0.0001	0.0018
42	<i>Schoepfia fragrans</i>	0.0010	0.0003	0.0002	0.0001	0.0016
43	<i>Litsea cubeba</i>	0.0010	0.0003	0.0002	0.0001	0.0016
44	<i>Maesa permollis</i>	0.0007	0.0002	0.0002	0.0001	0.0013
45	<i>Blumea balsamifera</i>	0.0008	0.0002	0.0002	0.0001	0.0012
46	<i>Castanopsis diversifolia</i>	0.0005	0.0001	0.0001	0.0001	0.0009
47	<i>Eurya nitida</i>	0.0004	0.0001	0.0001	0.0000	0.0006
48	<i>Celastrus paniculata</i>	0.0004	0.0001	0.0001	0.0000	0.0006
49	<i>Tadehagi triquetrum</i>	0.0003	0.0001	0.0001	0.0000	0.0005
50	<i>Engelhardtia serrata</i>	0.0002	0.0001	0.0001	0.0000	0.0004
	Total	74	30	6	7	117

Table 3-7 Potassium storages of tree species in a series of pine plantations

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>14 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	34.1316	25.0892	8.9253	32.2132	100.3593
2	<i>Glochidion sphaerogynum</i>	47.3668	14.3430	5.3727	8.8350	75.9175
3	<i>Schima wallichii</i>	26.0799	8.6504	2.0081	4.0711	40.8096
4	<i>Albizia chinensis</i>	16.9656	5.6210	1.2786	2.6366	26.5017
5	<i>Callicarpa arborea</i>	8.2228	2.6771	0.6689	1.3233	12.8921
6	<i>Litsea sp.</i>	7.4252	2.2804	0.7710	1.3379	11.8145
7	<i>Castanopsis diversifolia</i>	6.9932	2.3475	0.4935	1.0568	10.8910
8	<i>Ficus ribes</i>	5.7476	1.8671	0.4634	0.9249	9.0031
9	<i>Eriolaena candollei</i>	5.0952	1.6461	0.4285	0.8322	8.0020
10	<i>Myrica esculenta</i>	4.3983	1.3981	0.4039	0.7454	6.9456
11	<i>Syzygium cumini</i>	4.1662	1.4010	0.2953	0.6291	6.4917
12	<i>Engelhardtia spicata</i>	3.9666	1.2152	0.4328	0.7248	6.3395
13	<i>Archidendron clypearia</i>	3.9781	1.3505	0.2646	0.5867	6.1798
14	<i>Ficus callosa</i>	3.6666	1.0926	0.4315	0.7003	5.8910
15	<i>Albizia odoratissima</i>	3.0604	1.0219	0.2186	0.4662	4.7671
16	<i>Phyllanthus emblica</i>	1.6606	0.4510	0.2932	0.3811	2.7860
17	<i>Phoebe lanceolata</i>	1.5109	0.4825	0.1308	0.2513	2.3755
18	<i>Grewia laevigata</i>	1.4633	0.4664	0.1277	0.2443	2.3017
19	<i>Litsea monopetala</i>	0.5719	0.1660	0.0755	0.1150	0.9284
20	<i>Colona flagrocarpa</i>	0.4515	0.1282	0.0651	0.0947	0.7395
21	<i>Memecylon celastrinum</i>	0.4455	0.1266	0.0641	0.0933	0.7296
22	<i>Ternstroemia gymnanthera</i>	0.3796	0.1048	0.0622	0.0843	0.6309
23	<i>Wendlandia tinctoria</i>	0.3329	0.0924	0.0530	0.0730	0.5513
24	<i>Eurya nitida</i>	0.3027	0.0873	0.0406	0.0614	0.4920
25	<i>Glochidion hirsutum</i>	0.2818	0.0756	0.0519	0.0661	0.4754
26	<i>Horsfieldia tomentosa</i>	0.2029	0.0548	0.0363	0.0470	0.3409
27	<i>Dolichandrone serrulata</i>	0.1918	0.0508	0.0377	0.0462	0.3265
28	<i>Aporosa villosa</i>	0.1910	0.0516	0.0343	0.0442	0.3211
29	<i>Syzygium albiflorum</i>	0.1284	0.0322	0.0322	0.0345	0.2273
30	<i>Flacourtia indica</i>	0.0728	0.0192	0.0144	0.0176	0.1240
31	<i>Congea tomentosa</i>	0.0645	0.0169	0.0132	0.0159	0.1105
32	<i>Flemingia lineata</i>	0.0305	0.0076	0.0076	0.0082	0.0539
33	<i>Stereospermum neuranthum</i>	0.0168	0.0040	0.0049	0.0049	0.0306
34	<i>Glochidion acuminatum</i>	0.0057	0.0012	0.0027	0.0021	0.0116
35	<i>Melastoma sanguineum</i>	0.0024	0.0005	0.0012	0.0009	0.0051
36	<i>Micromelum minutum</i>	0.0017	0.0004	0.0009	0.0007	0.0037
	Total	190	74	24	59	346

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	15 year-old pine plantation					
1	<i>Pinus kesiya</i>	13.5831	9.4664	3.5566	13.0575	39.6635
2	<i>Schima wallichii</i>	30.1683	9.7836	2.5904	4.9345	47.4768
3	<i>Castanopsis acuminatissima</i>	25.6244	8.9471	1.5222	3.5824	39.6760
4	<i>Engelhardtia spicata</i>	14.9514	4.8564	1.2292	2.4176	23.4546
5	<i>Beilschmiedia gammieana</i>	15.0366	5.2854	0.9055	2.0947	23.3222
6	<i>Dillenia aurea</i>	11.5922	4.0794	0.6963	1.6124	17.9804
7	<i>Ternstroemia gymnanthera</i>	11.1196	3.4960	1.0428	1.9128	17.5712
8	<i>Helicia terminalis</i>	8.1494	2.6343	0.6863	1.3310	12.8010
9	<i>Phoebe paniculata</i>	6.7609	2.0192	0.8207	1.2979	10.8987
10	<i>Trichilla connaroides</i>	6.4153	2.1820	0.4358	0.9484	9.9816
11	<i>Stereospermum neuranthum</i>	5.9493	1.9976	0.4187	0.8986	9.2642
12	<i>Elaeocarpus sphaericus</i>	3.8908	1.2903	0.3000	0.6069	6.0880
13	<i>Helicia nilagirica</i>	3.2283	0.9881	0.3378	0.5844	5.1386
14	<i>Dalbergia assamica</i>	3.2005	1.0717	0.2258	0.4849	4.9829
15	<i>Castanopsis diversifolia</i>	2.5176	0.8253	0.2008	0.4000	3.9436
16	<i>Glochidion sphaerogynum</i>	2.2352	0.6799	0.2644	0.4187	3.5982
17	<i>Lindera metcalfiana</i>	2.1593	0.5881	0.3912	0.4970	3.6356
18	<i>Memecylon celastrinum</i>	1.9983	0.5430	0.3758	0.4647	3.3819
19	<i>Pyrenaria diospyricarpa</i>	1.7136	0.4386	0.3977	0.4437	2.9936
20	<i>Eurya nitida</i>	1.5874	0.4536	0.2312	0.3315	2.6038
21	<i>Wendlandia tinctoria</i>	1.4242	0.4132	0.1911	0.2878	2.3162
22	<i>Magnolia henryi</i>	1.0262	0.3006	0.1325	0.2036	1.6628
23	<i>Diospyros glandulosa</i>	0.7023	0.1900	0.1340	0.1645	1.1908
24	<i>Eriolaena candollei</i>	0.5738	0.1724	0.0646	0.1076	0.9185
25	<i>Symplocos henschelii</i>	0.5469	0.1590	0.0735	0.1102	0.8897
26	<i>Glochidion acuminatum</i>	0.3642	0.0835	0.1473	0.1195	0.7145
27	<i>Vitex canescens</i>	0.4119	0.1212	0.0508	0.0805	0.6644
28	<i>Phoebe cathia</i>	0.3103	0.0858	0.0499	0.0684	0.5144
29	<i>Saurauia roxburghii</i>	0.2796	0.0744	0.0552	0.0672	0.4763
30	<i>Archidendron clypearia</i>	0.2050	0.0518	0.0516	0.0547	0.3631
31	<i>Albizia odoratissima</i>	0.1345	0.0351	0.0281	0.0333	0.2310
32	<i>Quercus semiserrata</i>	0.1231	0.0328	0.0237	0.0293	0.2090
33	<i>Turpinia cochinchinensis</i>	0.1100	0.0298	0.0194	0.0253	0.1845
34	<i>Melastoma sanguineum</i>	0.0606	0.0127	0.0335	0.0233	0.1301
35	<i>Rhus javanica</i>	0.0465	0.0117	0.0122	0.0126	0.0830
36	<i>Phyllanthus emblica</i>	0.0442	0.0110	0.0113	0.0120	0.0786
37	<i>Blumea balsamifera</i>	0.0140	0.0030	0.0074	0.0053	0.0296
38	<i>Micromelum minutum</i>	0.0098	0.0021	0.0049	0.0036	0.0203
39	<i>Mussaenda sanderiana</i>	0.0075	0.0017	0.0027	0.0024	0.0144
40	<i>Lepisanthes rubiginosa</i>	0.0064	0.0014	0.0032	0.0024	0.0134
41	<i>Fissistigma minuticalyx</i>	0.0024	0.0005	0.0012	0.0009	0.0051
42	<i>Ampelocissus martinii</i>	0.0016	0.0003	0.0009	0.0006	0.0034
43	<i>Litsea monopetala</i>	0.0014	0.0003	0.0008	0.0006	0.0031
44	<i>Eurya acuminata</i>	0.0013	0.0003	0.0008	0.0005	0.0028
45	<i>Cinnamomum iners</i>	0.0011	0.0002	0.0007	0.0004	0.0025
46	<i>Euodia roxburghiana</i>	0.0010	0.0002	0.0006	0.0004	0.0023
47	<i>Milletia pachycarpa</i>	0.0010	0.0002	0.0006	0.0004	0.0022
48	<i>Litsea cubeba</i>	0.0006	0.0001	0.0005	0.0003	0.0015
49	<i>Arytera littoralis</i>	0.0006	0.0001	0.0005	0.0003	0.0015
50	<i>Myrica esculenta</i>	0.0006	0.0001	0.0004	0.0003	0.0015
51	<i>Styrax benzoides</i>	0.0006	0.0001	0.0004	0.0003	0.0014
52	<i>Litsea glutinosa</i>	0.0006	0.0001	0.0004	0.0003	0.0014
53	<i>Viburnum sambucinum</i>	0.0003	0.0001	0.0003	0.0001	0.0008
54	<i>Buddleja asiatica</i>	0.0002	0.0000	0.0002	0.0001	0.0005
	Total	178	63	18	40	299

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>16 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	71.2459	51.9390	18.6359	67.5335	209.3544
2	<i>Schima wallichii</i>	11.6857	3.6742	1.1024	2.0127	18.4750
3	<i>Canarium subulatum</i>	4.3372	1.3933	0.3699	0.7149	6.8153
4	<i>Wendlandia tinctoria</i>	4.1128	1.2229	0.5016	0.7939	6.6312
5	<i>Spatholobus parviflorus</i>	3.7550	1.2163	0.3059	0.6074	5.8845
6	<i>Engelhardtia spicata</i>	3.3819	1.0771	0.3019	0.5681	5.3291
7	<i>Phoebe paniculata</i>	3.2298	0.9832	0.3484	0.5918	5.1532
8	<i>Vitex peduncularis</i>	2.5172	0.7702	0.2661	0.4571	4.0106
9	<i>Glochidion sphaerogynum</i>	0.7717	0.2124	0.1278	0.1722	1.2841
10	<i>Ampelocissus martinii</i>	0.7492	0.2147	0.1044	0.1545	1.2228
11	<i>Musa acuminata</i>	0.7270	0.1931	0.1433	0.1749	1.2383
12	<i>Eriolaena candollei</i>	0.7572	0.2315	0.0791	0.1372	1.2049
13	<i>Phoebe cathia</i>	0.5635	0.1679	0.0686	0.1083	0.9084
14	<i>Lindera metcalfiana</i>	0.3363	0.0907	0.0729	0.0814	0.5813
15	<i>Glochidion acuminatum</i>	0.2473	0.0510	0.1431	0.0976	0.5390
16	<i>Glochidion hirsutum</i>	0.2584	0.0688	0.0496	0.0616	0.4383
17	<i>Melastoma sanguineum</i>	0.0611	0.0129	0.0326	0.0232	0.1297
18	<i>Saurauia roxburghii</i>	0.0386	0.0089	0.0138	0.0122	0.0735
19	<i>Eurya nitida</i>	0.0373	0.0083	0.0152	0.0125	0.0734
20	<i>Litsea cubeba</i>	0.0335	0.0072	0.0167	0.0122	0.0696
21	<i>Litsea monopetala</i>	0.0307	0.0071	0.0109	0.0097	0.0585
22	<i>Archidendron clypearia</i>	0.0170	0.0038	0.0070	0.0057	0.0335
23	<i>Trichilla connaroides</i>	0.0148	0.0031	0.0077	0.0056	0.0312
24	<i>Rauvolfia cambodiana</i>	0.0122	0.0025	0.0072	0.0048	0.0267
25	<i>Blumea balsamifera</i>	0.0087	0.0017	0.0061	0.0038	0.0204
26	<i>Ficus callosa</i>	0.0097	0.0023	0.0033	0.0030	0.0183
27	<i>Pyrenaria diospyricarpa</i>	0.0081	0.0017	0.0047	0.0032	0.0177
28	<i>Colona flagrocarpa</i>	0.0054	0.0011	0.0035	0.0023	0.0123
29	<i>Viburnum sambucinum</i>	0.0019	0.0004	0.0012	0.0008	0.0044
30	<i>Mussaenda sanderiana</i>	0.0013	0.0003	0.0009	0.0006	0.0031
31	<i>Diospyros glandulosa</i>	0.0012	0.0002	0.0007	0.0005	0.0026
32	<i>Artocarpus lacucha</i>	0.0012	0.0002	0.0007	0.0005	0.0026
33	<i>Micromelum minutum</i>	0.0008	0.0002	0.0005	0.0003	0.0019
	Total	109	64	23	74	270

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				Total
		Stem	Branch	Leaf	Root	
	17 year-old pine plantation					
1	<i>Pinus kesiya</i>	13.9435	9.2539	3.6551	13.6222	40.4747
2	<i>Schima wallichii</i>	28.6510	8.9947	2.7774	4.9754	45.3986
3	<i>Myrica esculenta</i>	23.8622	7.6952	2.0567	3.9291	37.5432
4	<i>Engelhardtia spicata</i>	20.0606	6.4751	1.8822	3.3705	31.7884
5	<i>Castanopsis diversifolia</i>	19.0276	6.1316	1.6603	3.1432	29.9626
6	<i>Quercus semiserrata</i>	18.7120	7.0028	0.8198	2.2794	28.8140
7	<i>Helicia terminalis</i>	15.4620	4.5722	1.9297	3.0164	24.9804
8	<i>Castanopsis acuminatissima</i>	12.1727	4.3783	0.6520	1.6133	18.8163
9	<i>Phoebe cathia</i>	10.9152	3.9344	0.5752	1.4374	16.8622
10	<i>Wendlandia tinctoria</i>	9.8378	2.9015	1.2612	1.9371	15.9377
11	<i>Syzygium albiflorum</i>	8.6902	2.8149	0.7125	1.4080	13.6256
12	<i>Elaeocarpus sphaericus</i>	7.4754	2.4609	0.5853	1.1794	11.7009
13	<i>Phyllanthus emblica</i>	6.1755	1.6470	1.1962	1.4739	10.4927
14	<i>Glochidion sphaerogynum</i>	3.5902	0.9802	0.6375	0.8211	6.0290
15	<i>Beilschmiedia gammieana</i>	3.3249	1.0175	0.3573	0.6057	5.3054
16	<i>Diospyros glandulosa</i>	2.9838	0.8343	0.4855	0.6529	4.9564
17	<i>Artocarpus lacucha</i>	3.0667	1.0238	0.2199	0.4676	4.7780
18	<i>Albizia chinensis</i>	2.3892	0.7854	0.1825	0.3753	3.7324
19	<i>Heterophragma sulfureum</i>	1.7264	0.5137	0.2093	0.3323	2.7817
20	<i>Trichilla connaroides</i>	1.2369	0.3561	0.1783	0.2560	2.0273
21	<i>Lithocarpus sp.</i>	1.1809	0.3410	0.1582	0.2395	1.9197
22	<i>Eurya nitida</i>	1.0563	0.2929	0.1726	0.2333	1.7551
23	<i>Albizia odoratissima</i>	1.0457	0.3221	0.1108	0.1885	1.6670
24	<i>Eriolaena candollei</i>	0.8940	0.2578	0.1224	0.1825	1.4567
25	<i>Dillenia aurea</i>	0.8841	0.2713	0.0941	0.1600	1.4095
26	<i>Phoebe paniculata</i>	0.7706	0.2226	0.1057	0.1570	1.2560
27	<i>Archidendron clypearia</i>	0.6986	0.1961	0.1095	0.1510	1.1552
28	<i>Garuga pinnata</i>	0.6997	0.2072	0.0854	0.1356	1.1279
29	<i>Ternstroemia gymnanthera</i>	0.6594	0.1934	0.0839	0.1302	1.0669
30	<i>Erythrina subumbrans</i>	0.5693	0.1709	0.0642	0.1069	0.9113
31	<i>Litsea glutinosa</i>	0.4732	0.1259	0.0928	0.1135	0.8055
32	<i>Helicia nilagirica</i>	0.4878	0.1451	0.0574	0.0933	0.7836
33	<i>Glochidion acuminatum</i>	0.3490	0.0786	0.1568	0.1198	0.7043
34	<i>Symplocos sp.</i>	0.3246	0.0886	0.0559	0.0737	0.5428
35	<i>Memecylon celastrinum</i>	0.2811	0.0710	0.0698	0.0748	0.4968
36	<i>Pyrenaria diospyricarpa</i>	0.2739	0.0664	0.0822	0.0793	0.5019
37	<i>Kydia calycina</i>	0.2885	0.0830	0.0392	0.0589	0.4696
38	<i>Glochidion hirsutum</i>	0.2473	0.0639	0.0538	0.0625	0.4275
39	<i>Melastoma sanguineum</i>	0.2159	0.0462	0.1091	0.0797	0.4508
40	<i>Arytera littoralis</i>	0.1903	0.0470	0.0573	0.0543	0.3489
41	<i>Rhus succedanea</i>	0.1992	0.0537	0.0359	0.0463	0.3351
42	<i>Cinnamomum iners</i>	0.1761	0.0467	0.0353	0.0426	0.3007
43	<i>Docynia indica</i>	0.1509	0.0390	0.0327	0.0381	0.2606
44	<i>Ampelocissus martinii</i>	0.1533	0.0414	0.0279	0.0356	0.2583
45	<i>Sapindus rarak</i>	0.0809	0.0208	0.0180	0.0206	0.1403
46	<i>Blumea balsamifera</i>	0.0702	0.0150	0.0364	0.0262	0.1478
47	<i>Carallia brachiata</i>	0.0704	0.0185	0.0140	0.0171	0.1201
48	<i>Xanthophyllum virens</i>	0.0541	0.0140	0.0116	0.0136	0.0932
49	<i>Lindera metcalfiana</i>	0.0398	0.0094	0.0134	0.0121	0.0748
50	<i>Litsea sp.</i>	0.0238	0.0053	0.0096	0.0080	0.0468
51	<i>Alstonia scholaris</i>	0.0231	0.0052	0.0092	0.0077	0.0453
52	<i>Symplocos henschelii</i>	0.0219	0.0052	0.0072	0.0066	0.0409
53	<i>Ilex umbellulata</i>	0.0165	0.0040	0.0049	0.0048	0.0301
54	<i>Catunaregam tomentosa</i>	0.0114	0.0026	0.0044	0.0037	0.0221
55	<i>Anneslea fragrans</i>	0.0076	0.0017	0.0028	0.0024	0.0146
56	<i>Saurauia roxburghii</i>	0.0051	0.0011	0.0021	0.0017	0.0100
57	<i>Spondias bipinnata</i>	0.0032	0.0007	0.0015	0.0012	0.0066
58	<i>Rhus javanica</i>	0.0032	0.0007	0.0015	0.0011	0.0065
59	<i>Viburnum sambucinum</i>	0.0024	0.0005	0.0012	0.0009	0.0049
60	<i>Euodia roxburghiana</i>	0.0019	0.0004	0.0014	0.0008	0.0045
61	<i>Quercus brandisiana</i>	0.0006	0.0001	0.0004	0.0003	0.0014
	Total	226	77	24	50	377

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	18 year-old pine plantation					
1	<i>Pinus kesiya</i>	53.1118	37.8966	13.8984	50.6246	155.5314
2	<i>Castanopsis purpurea</i>	29.5430	9.1706	3.0377	5.2602	47.0115
3	<i>Schima wallichii</i>	14.4671	4.6520	1.2983	2.4110	22.8284
4	<i>Eriolaena candollei</i>	13.9620	4.5187	1.1991	2.2901	21.9698
5	<i>Castanopsis acuminatissima</i>	13.1045	4.1597	1.1939	2.2188	20.6769
6	<i>Quercus vestita</i>	12.5408	3.7594	1.4739	2.3809	20.1550
7	<i>Castanopsis diversifolia</i>	12.0374	3.7332	1.2441	2.1472	19.1619
8	<i>Wendlandia tinctoria</i>	10.9492	3.0164	1.8507	2.4550	18.2713
9	<i>Glochidion sphaerogynum</i>	10.6417	3.1752	1.2896	2.0441	17.1506
10	<i>Dalbergia assamica</i>	8.2575	2.4045	1.1980	1.6985	13.5585
11	<i>Acacia megaladena</i>	7.5564	2.6713	0.4220	1.0291	11.6788
12	<i>Ternstroemia gymnanthera</i>	4.0803	1.1984	0.5142	0.8028	6.5957
13	<i>Archidendron clypearia</i>	3.8492	1.1766	0.4071	0.6997	6.1327
14	<i>Albizia odoratissima</i>	3.5261	1.1734	0.2615	0.5435	5.5045
15	<i>Phoebe lanceolata</i>	3.3387	1.0298	0.3419	0.5969	5.3072
16	<i>Ficus ribes</i>	3.2310	1.0390	0.2724	0.5305	5.0729
17	<i>Castanopsis tribuloides</i>	3.1673	1.0164	0.2691	0.5221	4.9749
18	<i>Helicia terminalis</i>	2.5994	0.7907	0.2817	0.4773	4.1492
19	<i>Lithocarpus sootepensis</i>	2.5354	0.7525	0.3032	0.4878	4.0789
20	<i>Erythrina subumbrans</i>	1.9562	0.6131	0.1856	0.3385	3.0933
21	<i>Syzygium cumini</i>	1.9421	0.5913	0.2079	0.3553	3.0966
22	<i>Eurya nitida</i>	1.8165	0.5209	0.2533	0.3745	2.9652
23	<i>Syzygium albiflorum</i>	1.7421	0.4898	0.2743	0.3769	2.8830
24	<i>Phyllanthus emblica</i>	1.6582	0.4469	0.3054	0.3872	2.7977
25	<i>Diospyros glandulosa</i>	1.6358	0.4749	0.2174	0.3296	2.6577
26	<i>Stereospermum neuranthum</i>	1.3473	0.4044	0.1550	0.2542	2.1609
27	<i>Protium serratum</i>	1.2791	0.3876	0.1392	0.2360	2.0419
28	<i>Aporosa villosa</i>	1.2243	0.3325	0.2194	0.2821	2.0583
29	<i>Elaeocarpus sphaericus</i>	1.1012	0.3447	0.1039	0.1904	1.7402
30	<i>Engelhardtia spicata</i>	1.0967	0.3432	0.1035	0.1898	1.7332
31	<i>Gluta obovata</i>	0.9482	0.2673	0.1429	0.2023	1.5607
32	<i>Magnolia henryi</i>	0.7886	0.2335	0.0956	0.1526	1.2704
33	<i>Dillenia aurea</i>	0.7828	0.2321	0.0969	0.1519	1.2638
34	<i>Pterospermum acerifolium</i>	0.7665	0.2345	0.0798	0.1387	1.2195
35	<i>Symplocos sp.</i>	0.7232	0.2123	0.0907	0.1422	1.1683
36	<i>Anneslea fragrans</i>	0.5303	0.1585	0.0610	0.1004	0.8502
37	<i>Dolichandrone serrulata</i>	0.4324	0.1203	0.0686	0.0946	0.7158
38	<i>Docynia indica</i>	0.4355	0.1286	0.0529	0.0845	0.7014
39	<i>Callicarpa arborea</i>	0.2701	0.0755	0.0424	0.0587	0.4467
40	<i>Gmelina arborea</i>	0.2465	0.0702	0.0349	0.0513	0.4030
41	<i>Colona flagrocarpa</i>	0.1646	0.0457	0.0260	0.0360	0.2724
42	<i>Helicia nilagirica</i>	0.1477	0.0407	0.0241	0.0328	0.2453
43	<i>Vaccinium sprengelii</i>	0.1118	0.0293	0.0231	0.0276	0.1917
44	<i>Symplocos racemosa</i>	0.1005	0.0259	0.0219	0.0255	0.1737
45	<i>Schoepfia fragrans</i>	0.0984	0.0265	0.0179	0.0230	0.1657
46	<i>Styrax benzoides</i>	0.0347	0.0087	0.0084	0.0092	0.0610
	Total	236	94	34	84	448

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	19 year-old pine plantation					
1	<i>Pinus kesiya</i>	67.0464	45.6643	17.5639	64.8822	195.1567
2	<i>Castanopsis diversifolia</i>	26.2920	8.1760	2.6541	4.6520	41.7741
3	<i>Eriolaena candollei</i>	17.7853	5.6085	1.7103	3.0710	28.1752
4	<i>Castanopsis purpurea</i>	17.8603	6.1791	1.2156	2.6024	27.8574
5	<i>Albizia chinensis</i>	11.7113	3.6982	1.0825	1.9996	18.4916
6	<i>Wendlandia tinctoria</i>	10.0555	2.9281	1.3903	2.0414	16.4154
7	<i>Ternstroemia gymnanthera</i>	6.5808	2.1895	0.4938	1.0173	10.2813
8	<i>Gluta obovata</i>	4.7962	1.6476	0.3031	0.6911	7.4380
9	<i>Ficus ribes</i>	4.6170	1.4032	0.5031	0.8500	7.3733
10	<i>Schima wallichii</i>	4.4249	1.4164	0.3809	0.7334	6.9556
11	<i>Markhamia stipulata</i>	3.4470	1.0925	0.3114	0.5833	5.4342
12	<i>Syzygium cumini</i>	3.1874	1.0062	0.2931	0.5436	5.0303
13	<i>Phyllanthus emblica</i>	2.2534	0.6270	0.3625	0.4944	3.7372
14	<i>Dolichandrone serrulata</i>	2.0543	0.6153	0.2393	0.3895	3.2983
15	<i>Castanopsis acuminatissima</i>	1.9678	0.6390	0.1585	0.3167	3.0819
16	<i>Protium serratum</i>	1.8884	0.5679	0.2145	0.3545	3.0253
17	<i>Acacia megaladena</i>	1.6519	0.4993	0.1832	0.3069	2.6413
18	<i>Phoebe lanceolata</i>	1.5106	0.4758	0.1420	0.2594	2.3878
19	<i>Glochidion sphaerogynum</i>	1.4421	0.4033	0.2233	0.3120	2.3807
20	<i>Litsea monopetala</i>	1.1868	0.3733	0.1097	0.2034	1.8731
21	<i>Phoebe paniculata</i>	0.9375	0.2806	0.1084	0.1775	1.5042
22	<i>Elaeocarpus sphaericus</i>	0.7982	0.2448	0.0822	0.1437	1.2689
23	<i>Adinandra integerrima</i>	0.6452	0.1771	0.1088	0.1450	1.0761
24	<i>Albizia odoratissima</i>	0.4652	0.1379	0.0555	0.0895	0.7481
25	<i>Horsfieldia tomentosa</i>	0.2975	0.0792	0.0569	0.0708	0.5044
26	<i>Dalbergia velutina</i>	0.2784	0.0799	0.0382	0.0571	0.4536
27	<i>Xanthophyllum virens</i>	0.2713	0.0757	0.0428	0.0591	0.4488
28	<i>Stereospermum neuranthum</i>	0.2226	0.0630	0.0324	0.0469	0.3650
29	<i>Holarrhena pubescens</i>	0.1914	0.0525	0.0330	0.0432	0.3202
30	<i>Dillenia indica</i>	0.1886	0.0522	0.0310	0.0418	0.3135
31	<i>Pterospermum acerifolium</i>	0.1756	0.0489	0.0273	0.0381	0.2899
32	<i>Aporosa wallichii</i>	0.1455	0.0395	0.0258	0.0334	0.2443
33	<i>Helicia nilagirica</i>	0.1240	0.0338	0.0212	0.0281	0.2071
34	<i>Engelhardtia spicata</i>	0.0659	0.0165	0.0161	0.0176	0.1162
35	<i>Vaccinium sprengelii</i>	0.0405	0.0103	0.0094	0.0106	0.0708
36	<i>Syzygium albiflorum</i>	0.0279	0.0069	0.0072	0.0076	0.0496
37	<i>Cinnamomum iners</i>	0.0062	0.0014	0.0024	0.0020	0.0121
38	<i>Arytera littoralis</i>	0.0047	0.0010	0.0026	0.0018	0.0102
	Total	197	87	30	87	401

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>20 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	75.1892	51.5851	19.6934	72.5737	219.0415
2	<i>Bauhinia variegata</i>	11.2092	3.4991	1.1169	1.9700	17.7952
3	<i>Eriolaena candollei</i>	9.6661	3.0449	0.9098	1.6612	15.2820
4	<i>Syzygium albiflorum</i>	2.3429	0.7324	0.2264	0.4079	3.7097
5	<i>Castanopsis diversifolia</i>	1.5964	0.4781	0.1873	0.3032	2.5650
6	<i>Glochidion sphaerogynum</i>	1.5482	0.4952	0.1331	0.2567	2.4331
7	<i>Phyllanthus emblica</i>	1.0475	0.3054	0.1345	0.2084	1.6958
8	<i>Dolichandrone serrulata</i>	0.0931	0.0248	0.0177	0.0221	0.1577
9	<i>Syzygium cumini</i>	0.0445	0.0108	0.0129	0.0128	0.0809
10	<i>Arytera littoralis</i>	0.0369	0.0079	0.0180	0.0135	0.0763
11	<i>Aporosa villosa</i>	0.0279	0.0069	0.0072	0.0076	0.0496
12	<i>Wendlandia tinctoria</i>	0.0243	0.0060	0.0065	0.0068	0.0436
13	<i>Dillenia indica</i>	0.0212	0.0052	0.0059	0.0060	0.0383
14	<i>Litsea monopetala</i>	0.0159	0.0036	0.0060	0.0051	0.0307
15	<i>Phoebe paniculata</i>	0.0047	0.0010	0.0020	0.0016	0.0093
16	<i>Symplocos sp.</i>	0.0017	0.0004	0.0009	0.0007	0.0037
17	<i>Rhus javanica</i>	0.0012	0.0002	0.0007	0.0005	0.0026
	Total	103	60	22	77	263

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>21 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	77.7010	54.6819	20.3403	74.4521	227.1754
2	<i>Schima wallichii</i>	61.4102	20.1680	5.0723	9.8529	96.5033
3	<i>Castanopsis acuminatissima</i>	26.6780	8.6793	2.1671	4.2956	41.8200
4	<i>Anneslea fragrans</i>	26.0549	8.5928	2.0655	4.1167	40.8299
5	<i>Syzygium albiflorum</i>	19.3276	6.7954	1.3325	2.7703	30.2258
6	<i>Castanopsis diversifolia</i>	17.1621	5.9876	1.0502	2.4171	26.6169
7	<i>Lithocarpus elegans</i>	13.9358	4.5890	1.1124	2.2096	21.8469
8	<i>Wendlandia tinctoria</i>	10.6076	3.0507	1.5409	2.2039	17.4031
9	<i>Elaeocarpus sphaericus</i>	10.0069	3.1221	1.0241	1.7718	15.9249
10	<i>Myrica esculenta</i>	5.7738	1.8935	0.4517	0.9144	9.0334
11	<i>Buchanania lanzan</i>	5.5392	1.7528	0.5268	0.9499	8.7687
12	<i>Syzygium cumini</i>	3.9830	1.2257	0.4215	0.7194	6.3497
13	<i>Lithocarpus garrettianus</i>	3.8184	1.1141	0.4964	0.7617	6.1906
14	<i>Glochidion sphaerogynum</i>	3.4884	1.0004	0.4944	0.7219	5.7052
15	<i>Aporosa villosa</i>	2.3867	0.6657	0.3984	0.5279	3.9786
16	<i>Magnolia henryi</i>	2.3581	0.7475	0.2129	0.3989	3.7174
17	<i>Xanthophyllum virens</i>	1.7405	0.5608	0.1449	0.2844	2.7307
18	<i>Engelhardtia spicata</i>	1.4332	0.3991	0.2296	0.3139	2.3758
19	<i>Phoebe paniculata</i>	1.2486	0.3527	0.1860	0.2652	2.0524
20	<i>Albizia chinensis</i>	1.1844	0.3668	0.1199	0.2104	1.8815
21	<i>Symplocos sp.</i>	0.9542	0.2751	0.1295	0.1944	1.5532
22	<i>Engelhardtia serrata</i>	0.8101	0.2348	0.1077	0.1634	1.3160
23	<i>Dalbergia assamica</i>	0.8167	0.2487	0.0895	0.1501	1.3050
24	<i>Tristania rufescens</i>	0.5757	0.1502	0.1207	0.1429	0.9895
25	<i>Albizia odoratissima</i>	0.5653	0.1688	0.0666	0.1077	0.9084
26	<i>Phyllanthus emblica</i>	0.3384	0.0841	0.0879	0.0926	0.6029
27	<i>Diospyros glandulosa</i>	0.3355	0.0871	0.0709	0.0838	0.5773
28	<i>Holarrhena pubescens</i>	0.3269	0.0824	0.0795	0.0868	0.5756
29	<i>Styrax benzoides</i>	0.2397	0.0609	0.0565	0.0627	0.4198
30	<i>Gmelina arborea</i>	0.2248	0.0635	0.0335	0.0477	0.3695
31	<i>Vitex peduncularis</i>	0.2021	0.0513	0.0479	0.0531	0.3543
32	<i>Ampelocissus martinii</i>	0.1612	0.0416	0.0355	0.0409	0.2793
33	<i>Canarium subulatum</i>	0.1286	0.0330	0.0288	0.0329	0.2233
34	<i>Olea salicifolia</i>	0.1235	0.0317	0.0283	0.0318	0.2152
35	<i>Bombax anceps</i>	0.1250	0.0329	0.0252	0.0305	0.2137
36	<i>Eurya nitida</i>	0.1271	0.0347	0.0216	0.0287	0.2121
37	<i>Stereospermum neuranthum</i>	0.1134	0.0294	0.0249	0.0287	0.1964
38	<i>Canarium sp.</i>	0.0323	0.0081	0.0080	0.0087	0.0571
39	<i>Dalbergia foliacea</i>	0.0219	0.0053	0.0060	0.0061	0.0393
40	<i>Rapanea porteriiana</i>	0.0087	0.0018	0.0047	0.0033	0.0185
41	<i>Beilschmiedia gammieana</i>	0.0017	0.0004	0.0009	0.0007	0.0037
	Total	302	127	40	112	582

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	22 year-old pine plantation					
1	<i>Pinus kesiya</i>	51.2007	34.2617	13.4199	49.9429	148.8253
2	<i>Quercus brandisiana</i>	38.7675	12.1423	3.8988	6.8071	61.6156
3	<i>Quercus vestita</i>	18.5887	5.3078	2.6978	3.8847	30.4790
4	<i>Lithocarpus polystachyus</i>	16.4007	4.9394	1.9064	3.0927	26.3392
5	<i>Dalbergia cultrata</i>	12.2167	3.6807	1.4103	2.2983	19.6059
6	<i>Schima wallichii</i>	11.4435	3.5157	1.1862	2.0604	18.2057
7	<i>Wendlandia tinctoria</i>	9.7024	2.6705	1.6376	2.1757	16.1862
8	<i>Gluta obovata</i>	8.9978	2.8963	0.8133	1.4985	14.2060
9	<i>Lithocarpus elegans</i>	8.4791	2.4204	1.2266	1.7710	13.8970
10	<i>Tristania rufescens</i>	6.6626	1.8892	1.1009	1.4501	11.1029
11	<i>Lithocarpus sootepensis</i>	6.5339	1.8509	0.9887	1.3898	10.7633
12	<i>Castanopsis purpurea</i>	6.2730	1.7466	1.0055	1.3745	10.3996
13	<i>Ficus ribes</i>	5.1403	1.5029	0.6611	1.0207	8.3250
14	<i>Anneslea fragrans</i>	4.8689	1.4074	0.6747	0.9947	7.9457
15	<i>Erythrina subumbrans</i>	3.8921	1.3195	0.2604	0.5755	6.0475
16	<i>Litsea sp.</i>	3.7965	1.1938	0.3580	0.6540	6.0023
17	<i>Aporosa villosa</i>	3.2218	0.8487	0.6568	0.7875	5.5148
18	<i>Glochidion sphaerogynum</i>	2.9275	0.7979	0.5189	0.6705	4.9148
19	<i>Phyllanthus emblica</i>	2.8314	0.7307	0.6268	0.7194	4.9083
20	<i>Craibiodendron stellatum</i>	2.0814	0.5672	0.3725	0.4777	3.4988
21	<i>Ternstroemia gymnanthera</i>	2.1096	0.5972	0.3190	0.4488	3.4746
22	<i>Vaccinium sprengelii</i>	1.6077	0.4161	0.3512	0.4061	2.7811
23	<i>Shorea roxburghii</i>	1.5422	0.4258	0.2617	0.3453	2.5750
24	<i>Syzygium cumini</i>	1.3653	0.3731	0.2432	0.3123	2.2938
25	<i>Semecarpus albescens</i>	1.2912	0.3934	0.1443	0.2385	2.0674
26	<i>Ilex umbellulata</i>	1.1631	0.3503	0.1299	0.2172	1.8604
27	<i>Dalbergia assamica</i>	1.1044	0.3196	0.1476	0.2234	1.7950
28	<i>Eriolaena candollei</i>	1.0482	0.3271	0.1002	0.1824	1.6579
29	<i>Glochidion hirsutum</i>	0.9043	0.2239	0.2392	0.2493	1.6167
30	<i>Engelhardtia serrata</i>	0.8969	0.2391	0.1721	0.2136	1.5217
31	<i>Castanopsis diversifolia</i>	0.9216	0.2700	0.1177	0.1823	1.4916
32	<i>Canarium subulatum</i>	0.7200	0.2194	0.0762	0.1313	1.1469
33	<i>Diospyros glandulosa</i>	0.7088	0.2158	0.0754	0.1295	1.1295
34	<i>Pterospermum acerifolium</i>	0.6775	0.2010	0.0830	0.1311	1.0926
35	<i>Gardenia sootepensis</i>	0.6228	0.1693	0.1087	0.1424	1.0431
36	<i>Spondias bipinnata</i>	0.4980	0.1432	0.0684	0.1020	0.8118
37	<i>Stereospermum neuranthum</i>	0.4965	0.1435	0.0671	0.1008	0.8079
38	<i>Syzygium albiflorum</i>	0.2834	0.0798	0.0432	0.0607	0.4672
39	<i>Viburnum sambucinum</i>	0.2810	0.0773	0.0463	0.0626	0.4672
40	<i>Celastrus paniculata</i>	0.2521	0.0660	0.0516	0.0621	0.4318
41	<i>Lithocarpus lindleyanus</i>	0.2482	0.0671	0.0453	0.0576	0.4182
42	<i>Pavetta tomentosa</i>	0.2307	0.0577	0.0582	0.0623	0.4088
43	<i>Eurya nitida</i>	0.2287	0.0648	0.0331	0.0481	0.3747
44	<i>Vitex peduncularis</i>	0.2215	0.0627	0.0323	0.0467	0.3632
45	<i>Dillenia aurea</i>	0.1893	0.0528	0.0298	0.0412	0.3130
46	<i>Quercus semiserrata</i>	0.1827	0.0477	0.0378	0.0452	0.3134
47	<i>Antidesma acidum</i>	0.1500	0.0359	0.0459	0.0441	0.2759
48	<i>Symplocos racemosa</i>	0.1171	0.0318	0.0203	0.0268	0.1961
49	<i>Dolichandrone serrulata</i>	0.1140	0.0309	0.0199	0.0261	0.1910
50	<i>Beilschmiedia gammieana</i>	0.1113	0.0301	0.0196	0.0256	0.1866
51	<i>Ampelocissus martinii</i>	0.1069	0.0289	0.0190	0.0247	0.1794
52	<i>Engelhardtia spicata</i>	0.0756	0.0194	0.0171	0.0194	0.1314
53	<i>Helicia nilagirica</i>	0.0688	0.0181	0.0138	0.0168	0.1175
54	<i>Gluta usitata</i>	0.0580	0.0146	0.0142	0.0154	0.1022
55	<i>Catunaregam tomentosa</i>	0.0565	0.0147	0.0120	0.0141	0.0973
56	<i>Terminalia chebula</i>	0.0540	0.0131	0.0153	0.0154	0.0978
57	<i>Phoebe lanceolata</i>	0.0396	0.0101	0.0092	0.0103	0.0692
58	<i>Vangueria pubescens</i>	0.0309	0.0076	0.0086	0.0087	0.0558
59	<i>Antidesma sp.</i>	0.0211	0.0049	0.0076	0.0067	0.0403
60	<i>Xantolis cambodiana</i>	0.0108	0.0025	0.0036	0.0033	0.0202
61	<i>Smilax ovalifolia</i>	0.0046	0.0010	0.0019	0.0016	0.0091
	Total	245	92	39	88	463

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>23 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	40.2647	27.5997	10.5491	39.0672	117.4806
2	<i>Quercus vestita</i>	56.6772	18.3133	5.0085	9.3691	89.3681
3	<i>Lithocarpus polystachyus</i>	36.6792	11.6719	3.4284	6.2355	58.0150
4	<i>Schima wallichii</i>	13.5187	4.3128	1.2027	2.2652	21.2995
5	<i>Lithocarpus sootepensis</i>	8.1969	2.5699	0.8420	1.4444	13.0532
6	<i>Lithocarpus elegans</i>	6.0006	1.7885	0.7335	1.1563	9.6789
7	<i>Quercus kingiana</i>	5.5938	1.5929	0.8206	1.1748	9.1820
8	<i>Tristania rufescens</i>	4.5161	1.2301	0.8534	1.0525	7.6521
9	<i>Phyllanthus emblica</i>	3.8546	1.0679	0.6582	0.8617	6.4423
10	<i>Castanopsis purpurea</i>	3.9326	1.2061	0.4208	0.7143	6.2738
11	<i>Protium serratum</i>	3.7507	1.1989	0.3272	0.6243	5.9011
12	<i>Stereospermum neuranthum</i>	3.3011	1.1075	0.2310	0.4982	5.1378
13	<i>Dalbergia assamica</i>	3.0643	0.8737	0.4433	0.6406	5.0219
14	<i>Albizia odoratissima</i>	3.1605	1.0336	0.2600	0.5074	4.9615
15	<i>Craibiodendron stellatum</i>	2.5368	0.7049	0.4470	0.5699	4.2587
16	<i>Vaccinium sprengelii</i>	2.2361	0.5892	0.4722	0.5517	3.8491
17	<i>Lithocarpus fenestratus</i>	2.1188	0.6174	0.2824	0.4256	3.4440
18	<i>Styrax benzoides</i>	1.2885	0.3660	0.1876	0.2708	2.1128
19	<i>Aporosa villosa</i>	1.2580	0.3410	0.2318	0.2923	2.1231
20	<i>Dillenia aurea</i>	1.3109	0.4149	0.1179	0.2219	2.0656
21	<i>Anneslea fragrans</i>	0.9281	0.2593	0.1480	0.2024	1.5378
22	<i>Clausena wallichii</i>	0.8917	0.2573	0.1197	0.1811	1.4498
23	<i>Wendlandia tinctoria</i>	0.8019	0.2140	0.1543	0.1910	1.3612
24	<i>Vangueria pubescens</i>	0.6913	0.1865	0.1244	0.1604	1.1626
25	<i>Syzygium cumini</i>	0.5094	0.1438	0.0763	0.1084	0.8378
26	<i>Castanopsis diversifolia</i>	0.4559	0.1306	0.0639	0.0942	0.7445
27	<i>Celastrus paniculata</i>	0.3668	0.1009	0.0611	0.0820	0.6108
28	<i>Gluta obovata</i>	0.3071	0.0787	0.0707	0.0793	0.5358
29	<i>Glochidion sphaerogynum</i>	0.2800	0.0717	0.0647	0.0724	0.4888
30	<i>Ziziphus oenoplia</i>	0.1741	0.0485	0.0271	0.0378	0.2876
31	<i>Glochidion hirsutum</i>	0.1290	0.0326	0.0314	0.0341	0.2272
32	<i>Symplocos racemosa</i>	0.1152	0.0305	0.0234	0.0279	0.1971
33	<i>Dalbergia foliacea</i>	0.1113	0.0301	0.0196	0.0256	0.1866
34	<i>Gluta usitata</i>	0.1020	0.0258	0.0250	0.0271	0.1799
35	<i>Dalbergia cultrata</i>	0.0992	0.0257	0.0214	0.0250	0.1712
36	<i>Flacourtia indica</i>	0.0910	0.0243	0.0169	0.0214	0.1537
37	<i>Cratoxylum sumatranum</i>	0.0871	0.0232	0.0164	0.0206	0.1473
38	<i>Colona flagrocarpa</i>	0.0746	0.0179	0.0224	0.0218	0.1366
39	<i>Ternstroemia gymnanthera</i>	0.0779	0.0206	0.0151	0.0187	0.1323
40	<i>Lithocarpus lindleyanus</i>	0.0668	0.0175	0.0135	0.0164	0.1142
41	<i>Antidesma acidum</i>	0.0424	0.0103	0.0120	0.0120	0.0768
42	<i>Dolichandrone serrulata</i>	0.0342	0.0082	0.0100	0.0099	0.0624
43	<i>Symplocos henschelii</i>	0.0293	0.0073	0.0074	0.0079	0.0519
44	<i>Semecarpus anacardium</i>	0.0248	0.0061	0.0066	0.0069	0.0444
45	<i>Cratoxylum formosum</i>	0.0243	0.0060	0.0065	0.0068	0.0436
46	<i>Terminalia chebula</i>	0.0178	0.0042	0.0056	0.0053	0.0329
47	<i>Catunaregam tomentosa</i>	0.0114	0.0027	0.0037	0.0035	0.0213
48	<i>Engelhardtia spicata</i>	0.0020	0.0004	0.0010	0.0007	0.0042
49	<i>Turpinia pomifera</i>	0.0017	0.0004	0.0009	0.0007	0.0037
50	<i>Syzygium albiflorum</i>	0.0017	0.0004	0.0009	0.0007	0.0037
	Total	210	80	29	69	388

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>24 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	49.6132	32.7866	13.0069	48.5404	143.9472
2	<i>Castanopsis diversifolia</i>	101.1754	37.4989	4.8585	12.7109	156.2437
3	<i>Schima wallichii</i>	34.0290	11.7339	2.2887	4.9596	53.0112
4	<i>Elaeocarpus sphaericus</i>	24.3718	8.4227	1.5926	3.5197	37.9068
5	<i>Sarcosperma arboreum</i>	16.6485	5.8322	0.9803	2.3162	25.7772
6	<i>Syzygium cumini</i>	16.4531	6.1091	0.7436	2.0346	25.3405
7	<i>Helicia terminalis</i>	8.8254	2.6158	1.0803	1.7100	14.2314
8	<i>Erythrina subumbrans</i>	7.4208	2.4657	0.5495	1.1456	11.5816
9	<i>Glochidion sphaerogynum</i>	6.3876	2.0318	0.5744	1.0762	10.0699
10	<i>Temstroemia gymnanthera</i>	4.3447	1.3761	0.3933	0.7359	6.8500
11	<i>Betula alnoides</i>	4.2719	1.4568	0.2786	0.6244	6.6317
12	<i>Engelhardtia serrata</i>	3.5004	1.1368	0.2845	0.5645	5.4862
13	<i>Styrax benzoides</i>	2.8749	0.8655	0.3340	0.5421	4.6165
14	<i>Magnolia henryi</i>	2.5116	0.8283	0.1893	0.3921	3.9213
15	<i>Engelhardtia spicata</i>	2.4704	0.8138	0.1870	0.3865	3.8577
16	<i>Dalbergia assamica</i>	1.4465	0.4438	0.1500	0.2608	2.3012
17	<i>Eurya nitida</i>	1.1160	0.3259	0.1642	0.2283	1.8343
18	<i>Dalbergia foliacea</i>	0.5994	0.1685	0.0899	0.1281	0.9859
19	<i>Phyllanthus emblica</i>	0.4956	0.1412	0.0732	0.1042	0.8141
20	<i>Callicarpa arborea</i>	0.4445	0.1314	0.0537	0.0860	0.7156
21	<i>Gmelina arborea</i>	0.2085	0.0588	0.0309	0.0443	0.3425
22	<i>Dolichandrone serrulata</i>	0.1763	0.0492	0.0274	0.0383	0.2912
23	<i>Gluta obovata</i>	0.1730	0.0461	0.0326	0.0410	0.2928
24	<i>Helicia nilagirica</i>	0.1394	0.0383	0.0231	0.0311	0.2319
25	<i>Stereospermum neuranthum</i>	0.1209	0.0329	0.0208	0.0275	0.2022
26	<i>Anneslea fragrans</i>	0.1156	0.0314	0.0201	0.0264	0.1935
27	<i>Wendlandia tinctoria</i>	0.1095	0.0275	0.0272	0.0294	0.1935
28	<i>Syzygium albiflorum</i>	0.1034	0.0268	0.0220	0.0259	0.1781
29	<i>Phoebe paniculata</i>	0.0987	0.0248	0.0251	0.0265	0.1751
30	<i>Holarrhena pubescens</i>	0.0691	0.0182	0.0138	0.0168	0.1179
31	<i>Diospyros glandulosa</i>	0.0421	0.0107	0.0096	0.0109	0.0734
32	<i>Turpinia pomifera</i>	0.0347	0.0087	0.0084	0.0092	0.0610
33	<i>Archidendron clypearia</i>	0.0244	0.0053	0.0112	0.0086	0.0495
34	<i>Pavetta tomentosa</i>	0.0116	0.0026	0.0050	0.0040	0.0232
35	<i>Symplocos sp.</i>	0.0047	0.0010	0.0020	0.0016	0.0093
36	<i>Melastoma sanguineum</i>	0.0032	0.0007	0.0021	0.0013	0.0074
37	<i>Rhus javanica</i>	0.0026	0.0005	0.0015	0.0010	0.0058
38	<i>Morinda tomentosa</i>	0.0022	0.0004	0.0015	0.0009	0.0051
39	<i>Pittosporum nepaulense</i>	0.0021	0.0005	0.0011	0.0008	0.0045
40	<i>Albizia odoratissima</i>	0.0020	0.0004	0.0013	0.0008	0.0045
41	<i>Olea salicifolia</i>	0.0017	0.0004	0.0009	0.0007	0.0037
42	<i>Canarium subulatum</i>	0.0014	0.0003	0.0008	0.0006	0.0031
43	<i>Vernonia volkameriifolia</i>	0.0012	0.0002	0.0007	0.0005	0.0026
44	<i>Acacia megaladena</i>	0.0011	0.0002	0.0007	0.0005	0.0025
45	<i>Lindera metcalfiana</i>	0.0006	0.0001	0.0005	0.0003	0.0015
46	<i>Litsea cubeba</i>	0.0003	0.0001	0.0003	0.0002	0.0008
	Total	290	118	28	82	519

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>25 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	64.6628	43.4403	16.9466	62.9722	188.0219
2	<i>Schima wallichii</i>	35.9273	11.6647	3.0710	5.8703	56.5332
3	<i>Castanopsis diversifolia</i>	20.5975	6.7801	1.6588	3.2736	32.3100
4	<i>Syzygium albiflorum</i>	19.4315	7.2026	0.9379	2.4383	30.0103
5	<i>Castanopsis purpurea</i>	13.2311	4.7979	0.6770	1.7223	20.4283
6	<i>Anneslea fragrans</i>	9.9113	3.1379	0.9514	1.7033	15.7039
7	<i>Castanopsis acuminatissima</i>	8.9060	2.9167	0.6922	1.4099	13.9248
8	<i>Wendlandia tinctoria</i>	5.3107	1.4312	0.9717	1.2382	8.9518
9	<i>Helicia nilagirica</i>	3.6808	1.0752	0.4874	0.7369	5.9803
10	<i>Ternstroemia gymnanthera</i>	3.3949	1.0161	0.3992	0.6454	5.4556
11	<i>Glochidion sphaerogynum</i>	3.3225	1.0139	0.3582	0.6076	5.3021
12	<i>Styrax benzoides</i>	2.6598	0.7564	0.3887	0.5589	4.3639
13	<i>Betula alnoides</i>	2.2244	0.7279	0.1733	0.3526	3.4781
14	<i>Gluta obovata</i>	1.9214	0.5331	0.3139	0.4244	3.1928
15	<i>Ficus ribes</i>	1.7812	0.5303	0.2139	0.3421	2.8674
16	<i>Engelhardtia serrata</i>	1.6980	0.5155	0.1849	0.3128	2.7111
17	<i>Lithocarpus sootepensis</i>	1.4681	0.4344	0.1821	0.2857	2.3702
18	<i>Diospyros glandulosa</i>	1.3304	0.3963	0.1571	0.2544	2.1381
19	<i>Callicarpa arborea</i>	1.2399	0.3911	0.1132	0.2113	1.9554
20	<i>Engelhardtia spicata</i>	0.9206	0.2612	0.1368	0.1946	1.5133
21	<i>Tristania rufescens</i>	0.8854	0.2435	0.1483	0.1983	1.4755
22	<i>Dalbergia foliacea</i>	0.5738	0.1574	0.0965	0.1289	0.9567
23	<i>Dalbergia assamica</i>	0.5217	0.1495	0.0722	0.1074	0.8508
24	<i>Dillenia aurea</i>	0.4348	0.1284	0.0528	0.0844	0.7004
25	<i>Phyllanthus emblica</i>	0.3434	0.0907	0.0681	0.0832	0.5854
26	<i>Magnolia henryi</i>	0.3334	0.0968	0.0435	0.0669	0.5406
27	<i>Phoebe paniculata</i>	0.3044	0.0856	0.0464	0.0653	0.5017
28	<i>Phoebe cathia</i>	0.2733	0.0783	0.0377	0.0562	0.4454
29	<i>Eurya nitida</i>	0.2226	0.0630	0.0324	0.0469	0.3650
30	<i>Gluta usitata</i>	0.2015	0.0541	0.0380	0.0475	0.3410
31	<i>Symplocos sp.</i>	0.1156	0.0314	0.0201	0.0264	0.1935
32	<i>Dolichandrone serrulata</i>	0.0460	0.0118	0.0103	0.0118	0.0799
33	<i>Elaeocarpus sphaericus</i>	0.0360	0.0090	0.0093	0.0098	0.0641
34	<i>Aporosa villosa</i>	0.0312	0.0078	0.0078	0.0084	0.0552
35	<i>Olea salicifolia</i>	0.0074	0.0017	0.0027	0.0024	0.0143
36	<i>Acacia megaladena</i>	0.0019	0.0004	0.0012	0.0008	0.0044
37	<i>Archidendron clypearia</i>	0.0014	0.0003	0.0008	0.0006	0.0031
38	<i>Albizia odoratissima</i>	0.0012	0.0002	0.0007	0.0005	0.0026
39	<i>Pavetta tomentosa</i>	0.0009	0.0002	0.0006	0.0004	0.0020
	Total	208	90	30	87	414

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>26 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	103.9716	79.0582	27.1678	97.1092	307.3068
2	<i>Schima wallichii</i>	79.9632	26.9903	5.8352	12.1301	124.9188
3	<i>Quercus semiserrata</i>	31.6927	12.2648	1.1984	3.6130	48.7688
4	<i>Castanopsis diversifolia</i>	31.1465	11.0880	1.8127	4.2511	48.2983
5	<i>Helicia nilagirica</i>	20.2605	7.1641	1.1407	2.7642	31.3295
6	<i>Syzygium albiflorum</i>	11.9646	4.2750	0.6752	1.6147	18.5294
7	<i>Ternstroemia gymnanthera</i>	11.0669	3.7375	0.8011	1.6711	17.2766
8	<i>Stereospermum neuranthum</i>	10.6968	3.8653	0.5435	1.3953	16.5009
9	<i>Syzygium cumini</i>	7.5963	2.6863	0.4237	1.0339	11.7400
10	<i>Castanopsis purpurea</i>	6.3646	2.2257	0.3725	0.8854	9.8482
11	<i>Dillenia aurea</i>	5.5396	1.9203	0.3367	0.7841	8.5806
12	<i>Phoebe paniculata</i>	5.2689	1.7180	0.4217	0.8434	8.2520
13	<i>Elaeocarpus sphaericus</i>	2.6835	0.8316	0.2653	0.4738	4.2543
14	<i>Engelhardtia spicata</i>	2.6338	0.8044	0.2813	0.4802	4.1996
15	<i>Toona ciliata</i>	2.4157	0.7947	0.1840	0.3790	3.7733
16	<i>Helicia terminalis</i>	1.9122	0.5622	0.2429	0.3766	3.0939
17	<i>Dalbergia assamica</i>	1.7878	0.5257	0.2309	0.3533	2.8978
18	<i>Lithocarpus elegans</i>	1.5740	0.4548	0.2149	0.3205	2.5642
19	<i>Castanopsis acuminatissima</i>	1.4618	0.4515	0.1483	0.2606	2.3222
20	<i>Quercus vestita</i>	0.7404	0.2156	0.1016	0.1498	1.2074
21	<i>Wendlandia tinctoria</i>	0.6416	0.1781	0.1018	0.1406	1.0621
22	<i>Myrica esculenta</i>	0.5633	0.1690	0.0638	0.1059	0.9019
23	<i>Albizia chinensis</i>	0.4759	0.1413	0.0564	0.0913	0.7648
24	<i>Glochidion sphaerogynum</i>	0.4181	0.1125	0.0768	0.0977	0.7051
25	<i>Styrax benzoides</i>	0.3461	0.1007	0.0447	0.0691	0.5607
26	<i>Vaccinium sprengelii</i>	0.2547	0.0690	0.0457	0.0588	0.4282
27	<i>Magnolia elegans</i>	0.0708	0.0184	0.0152	0.0177	0.1221
28	<i>Eurya nitida</i>	0.0601	0.0153	0.0139	0.0156	0.1049
29	<i>Terminalia chebula</i>	0.0348	0.0088	0.0084	0.0092	0.0612
30	<i>Aporosa villosa</i>	0.0068	0.0015	0.0025	0.0022	0.0130
31	<i>Acacia megaladena</i>	0.0008	0.0002	0.0005	0.0003	0.0018
	Total	344	162	43	131	680

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	27 year-old pine plantation					
1	<i>Pinus kesiya</i>	63.6999	46.5020	16.6611	60.3216	187.1846
2	<i>Schima wallichii</i>	126.5341	40.8480	10.7477	20.7400	198.8697
3	<i>Castanopsis diversifolia</i>	13.2935	4.2553	1.1704	2.2144	20.9336
4	<i>Glochidion sphaerogynum</i>	12.5329	3.8497	1.3407	2.2739	19.9972
5	<i>Phoebe paniculata</i>	11.8623	3.7788	1.0969	2.0049	18.7428
6	<i>Elaeocarpus sphaericus</i>	10.8837	3.4709	0.9626	1.8212	17.1383
7	<i>Dalbergia velutina</i>	8.4991	2.3875	1.3034	1.8268	14.0168
8	<i>Betula alnoides</i>	8.2026	2.7906	0.5407	1.2047	12.7385
9	<i>Buchanania lanzan</i>	7.6100	2.5822	0.5149	1.1268	11.8338
10	<i>Castanopsis purpurea</i>	7.0098	2.2732	0.5725	1.1333	10.9888
11	<i>Wendlandia tinctoria</i>	5.2406	1.5450	0.6651	1.0283	8.4789
12	<i>Lithocarpus elegans</i>	3.4259	0.9975	0.4557	0.6879	5.5670
13	<i>Syzygium albiflorum</i>	2.8291	0.8758	0.2979	0.5070	4.5099
14	<i>Styrax benzoides</i>	1.8112	0.5547	0.2069	0.3336	2.9065
15	<i>Albizia odoratissima</i>	1.8091	0.5824	0.1550	0.2974	2.8439
16	<i>Eurya nitida</i>	1.5881	0.4870	0.1811	0.2917	2.5478
17	<i>Helicia terminalis</i>	1.4399	0.4186	0.1958	0.2913	2.3456
18	<i>Quercus brandisiana</i>	1.3893	0.4413	0.1230	0.2334	2.1870
19	<i>Symplocos racemosa</i>	1.2735	0.3768	0.1552	0.2468	2.0524
20	<i>Castanopsis acuminatissima</i>	1.2028	0.3786	0.1107	0.2057	1.8979
21	<i>Cleidion spiciflorum</i>	0.9539	0.2834	0.1128	0.1829	1.5331
22	<i>Symplocos sp.</i>	0.7747	0.2259	0.1023	0.1549	1.2578
23	<i>Lithocarpus fenestratus</i>	0.6186	0.1753	0.0904	0.1304	1.0148
24	<i>Colona flagrocarpa</i>	0.5135	0.1532	0.0596	0.0976	0.8240
25	<i>Memecylon edule</i>	0.4334	0.1202	0.0696	0.0953	0.7185
26	<i>Syzygium cumini</i>	0.4140	0.1217	0.0516	0.0811	0.6684
27	<i>Mallotus paniculatus</i>	0.3273	0.0701	0.1623	0.1201	0.6798
28	<i>Markhamia pierrei</i>	0.3543	0.1030	0.0470	0.0711	0.5754
29	<i>Engelhardtia spicata</i>	0.2862	0.0791	0.0464	0.0633	0.4750
30	<i>Lithocarpus garrettianus</i>	0.2273	0.0640	0.0346	0.0486	0.3746
31	<i>Semecarpus albescens</i>	0.2122	0.0599	0.0313	0.0450	0.3485
32	<i>Helicia nilagirica</i>	0.2012	0.0545	0.0357	0.0464	0.3378
33	<i>Neolitsea zeylanica</i>	0.1258	0.0271	0.0616	0.0457	0.2603
34	<i>Myrica esculenta</i>	0.1318	0.0346	0.0280	0.0326	0.2270
35	<i>Anneslea fragrans</i>	0.1224	0.0332	0.0216	0.0281	0.2053
36	<i>Phoebe lanceolata</i>	0.0424	0.0098	0.0170	0.0138	0.0830
37	<i>Catunaregam tomentosa</i>	0.0306	0.0061	0.0204	0.0129	0.0700
38	<i>Phyllanthus emblica</i>	0.0286	0.0067	0.0102	0.0089	0.0545
39	<i>Archidendron clypearia</i>	0.0213	0.0045	0.0111	0.0080	0.0449
40	<i>Artocarpus sp.</i>	0.0201	0.0045	0.0080	0.0067	0.0393
41	<i>Blumea balsamifera</i>	0.0113	0.0023	0.0063	0.0044	0.0242
42	<i>Memecylon celastrinum</i>	0.0109	0.0023	0.0062	0.0043	0.0237
43	<i>Cinnamomum iners</i>	0.0109	0.0023	0.0061	0.0042	0.0234
44	<i>Litsea cubeba</i>	0.0103	0.0022	0.0052	0.0038	0.0215
45	<i>Mussaenda sanderiana</i>	0.0089	0.0018	0.0063	0.0038	0.0208
46	<i>Turpintia cochinchinensis</i>	0.0081	0.0018	0.0034	0.0028	0.0162
47	<i>Vernonia volkameriifolia</i>	0.0068	0.0014	0.0034	0.0025	0.0141
48	<i>Diospyros glandulosa</i>	0.0060	0.0012	0.0037	0.0024	0.0133
49	<i>Euodia roxburghiana</i>	0.0056	0.0011	0.0045	0.0026	0.0138
50	<i>Melastoma sanguineum</i>	0.0050	0.0010	0.0030	0.0020	0.0110
51	<i>Milletia pachycarpa</i>	0.0048	0.0009	0.0034	0.0021	0.0111
52	<i>Ternstroemia gymnanthera</i>	0.0041	0.0009	0.0018	0.0014	0.0083
53	<i>Rhus javanica</i>	0.0035	0.0007	0.0022	0.0014	0.0078
54	<i>Glochidion arborescens</i>	0.0034	0.0007	0.0018	0.0013	0.0072
55	<i>Albizia chinensis</i>	0.0031	0.0006	0.0021	0.0013	0.0071
56	<i>Lindera metcalftiana</i>	0.0027	0.0005	0.0017	0.0011	0.0061
57	<i>Canthium sp.</i>	0.0024	0.0005	0.0012	0.0009	0.0051
58	<i>Kydia calycina</i>	0.0024	0.0005	0.0012	0.0009	0.0051
59	<i>Engelhardtia serrata</i>	0.0021	0.0005	0.0011	0.0008	0.0045
60	<i>Acacia megaladena</i>	0.0017	0.0003	0.0012	0.0007	0.0040
61	<i>Magnolia henryi</i>	0.0017	0.0004	0.0009	0.0007	0.0037
62	<i>Artocarpus lacucha</i>	0.0017	0.0004	0.0009	0.0007	0.0037
63	<i>Viburnum sambucinum</i>	0.0017	0.0004	0.0009	0.0007	0.0037
64	<i>Acacia pennata</i>	0.0015	0.0003	0.0012	0.0007	0.0038
65	<i>Syzygium sp.</i>	0.0014	0.0003	0.0010	0.0006	0.0032
66	<i>Antidesma acidum</i>	0.0014	0.0003	0.0008	0.0006	0.0031
67	<i>Craibiodendron stellatum</i>	0.0012	0.0002	0.0007	0.0005	0.0026
68	<i>Antiaris toxicaria</i>	0.0007	0.0001	0.0005	0.0003	0.0016
69	<i>Gluta obovata</i>	0.0006	0.0001	0.0005	0.0003	0.0015
70	<i>Ficus callosa</i>	0.0004	0.0001	0.0003	0.0002	0.0010
	Total	298	121	39	100	558

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>28 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	72.5894	58.1191	18.9445	66.6503	216.3033
2	<i>Schima wallichii</i>	54.0897	17.9362	4.0408	8.3837	84.4505
3	<i>Engelhardtia spicata</i>	6.3741	2.0107	0.6059	1.0965	10.0873
4	<i>Glochidion sphaerogynum</i>	5.6852	1.7705	0.5741	1.0043	9.0342
5	<i>Markhamia stipulata</i>	3.1501	0.9555	0.3422	0.5805	5.0282
6	<i>Castanopsis diversifolia</i>	3.0256	0.9469	0.2995	0.5293	4.8013
7	<i>Entada rheedii</i>	2.6395	0.8731	0.1963	0.4096	4.1184
8	<i>Colona flagrocarpa</i>	2.0356	0.6622	0.1634	0.3267	3.1879
9	<i>Stereospermum neuranthum</i>	1.3253	0.4052	0.1412	0.2412	2.1128
10	<i>Castanopsis purpurea</i>	1.3067	0.4135	0.1176	0.2212	2.0591
11	<i>Erythrina subumbrans</i>	0.4931	0.1393	0.0743	0.1049	0.8115
12	<i>Gmelina arborea</i>	0.4497	0.1237	0.0774	0.1013	0.7521
13	<i>Dalbergia foliacea</i>	0.3485	0.0944	0.0627	0.0805	0.5862
14	<i>Vaccinium sprengelii</i>	0.3533	0.1029	0.0454	0.0704	0.5720
15	<i>Dalbergia assamica</i>	0.2801	0.0773	0.0467	0.0624	0.4664
16	<i>Phyllanthus emblica</i>	0.2133	0.0571	0.0406	0.0504	0.3614
17	<i>Albizia odoratissima</i>	0.2085	0.0587	0.0315	0.0446	0.3433
18	<i>Syzygium albiflorum</i>	0.1949	0.0541	0.0321	0.0431	0.3241
19	<i>Litsea cubeba</i>	0.1369	0.0310	0.0531	0.0449	0.2660
20	<i>Ficus ribes</i>	0.1300	0.0329	0.0324	0.0346	0.2299
21	<i>Diospyros glandulosa</i>	0.0563	0.0131	0.0197	0.0176	0.1068
22	<i>Musa acuminata</i>	0.0353	0.0089	0.0085	0.0094	0.0621
23	<i>Archidendron clypearia</i>	0.0303	0.0073	0.0093	0.0089	0.0558
24	<i>Phoebe paniculata</i>	0.0230	0.0050	0.0103	0.0081	0.0464
25	<i>Wendlandia tinctoria</i>	0.0164	0.0036	0.0075	0.0058	0.0333
26	<i>Vernonia volkamerifolia</i>	0.0161	0.0036	0.0069	0.0055	0.0321
27	<i>Horsfieldia tomentosa</i>	0.0108	0.0025	0.0036	0.0033	0.0202
28	<i>Rhus javanica</i>	0.0094	0.0021	0.0039	0.0032	0.0186
29	<i>Phoebe lanceolata</i>	0.0062	0.0013	0.0029	0.0022	0.0127
30	<i>Acacia megaladena</i>	0.0025	0.0005	0.0012	0.0009	0.0052
31	<i>Eriolaena candollei</i>	0.0024	0.0005	0.0012	0.0009	0.0051
32	<i>Melastoma sanguineum</i>	0.0023	0.0005	0.0014	0.0009	0.0051
33	<i>Litsea monopetala</i>	0.0017	0.0004	0.0009	0.0007	0.0037
34	<i>Syzygium cumini</i>	0.0017	0.0004	0.0009	0.0007	0.0037
35	<i>Aporosa villosa</i>	0.0017	0.0004	0.0009	0.0007	0.0037
	Total	155	85	26	80	346

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>29 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	40.5463	28.2446	10.6172	39.0218	118.4300
2	<i>Castanopsis purpurea</i>	27.3485	8.9561	2.3371	4.4351	43.0769
3	<i>Schima wallichii</i>	23.2413	7.7169	1.7758	3.6146	36.3486
4	<i>Helicia terminalis</i>	16.2419	5.0287	1.6519	2.8902	25.8127
5	<i>Anneslea fragrans</i>	10.1523	3.5603	0.5979	1.4109	15.7215
6	<i>Quercus vestita</i>	4.6495	1.4820	0.4126	0.7793	7.3234
7	<i>Castanopsis diversifolia</i>	4.0667	1.3577	0.3099	0.6280	6.3622
8	<i>Helicia nilagirica</i>	3.5980	1.1502	0.3278	0.6050	5.6809
9	<i>Toona ciliata</i>	2.9251	0.9334	0.2553	0.4877	4.6014
10	<i>Myrica esculenta</i>	2.6371	0.7929	0.3049	0.4971	4.2320
11	<i>Engelhardtia spicata</i>	2.2101	0.7064	0.1980	0.3701	3.4847
12	<i>Wendlandia tinctoria</i>	1.4931	0.3900	0.3111	0.3697	2.5639
13	<i>Eriolaena candollei</i>	1.4801	0.4594	0.1475	0.2615	2.3484
14	<i>Erythrina subumbrans</i>	1.4368	0.4574	0.1260	0.2404	2.2607
15	<i>Cycas pectinata</i>	0.8793	0.2532	0.1188	0.1791	1.4304
16	<i>Acacia megaladena</i>	0.5578	0.1627	0.0727	0.1114	0.9046
17	<i>Camellia pleurocarpa</i>	0.4537	0.1316	0.0607	0.0915	0.7375
18	<i>Phyllanthus emblica</i>	0.4302	0.1202	0.0690	0.0940	0.7133
19	<i>Ternstroemia gymnanthera</i>	0.3989	0.1171	0.0496	0.0783	0.6439
20	<i>Tadehagi triquetrum</i>	0.2778	0.0783	0.0422	0.0594	0.4576
21	<i>Lithocarpus elegans</i>	0.1867	0.0522	0.0285	0.0402	0.3077
22	<i>Dalbergia foliacea</i>	0.1522	0.0421	0.0246	0.0336	0.2525
23	<i>Morinda tomentosa</i>	0.1156	0.0314	0.0201	0.0264	0.1936
24	<i>Pterospermum acerifolium</i>	0.1023	0.0276	0.0184	0.0238	0.1720
25	<i>Glochidion sphaerogynum</i>	0.0722	0.0190	0.0143	0.0175	0.1231
26	<i>Blumea balsamifera</i>	0.0536	0.0125	0.0186	0.0167	0.1014
27	<i>Glochidion hirsutum</i>	0.0517	0.0133	0.0112	0.0131	0.0893
28	<i>Catunaregam tomentosa</i>	0.0315	0.0076	0.0093	0.0092	0.0576
29	<i>Antidesma acidum</i>	0.0311	0.0078	0.0077	0.0084	0.0550
30	<i>Melastoma sanguineum</i>	0.0160	0.0035	0.0075	0.0058	0.0328
31	<i>Litsea cubeba</i>	0.0025	0.0005	0.0012	0.0009	0.0052
32	<i>Syzygium cumini</i>	0.0009	0.0002	0.0006	0.0004	0.0021
	Total	146	62	20	56	285

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>30 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	71.9049	56.4696	18.7751	66.4885	213.6382
2	<i>Castanopsis diversifolia</i>	60.0480	22.6977	2.8085	7.3540	92.9082
3	<i>Schima wallichii</i>	56.3242	17.8806	5.1287	9.5341	88.8677
4	<i>Castanopsis purpurea</i>	18.5204	6.1463	1.3694	2.8614	28.8976
5	<i>Dalbergia assamica</i>	14.2071	4.5649	1.2572	2.3611	22.3903
6	<i>Engelhardtia spicata</i>	12.6027	3.9924	1.1715	2.1481	19.9147
7	<i>Lithocarpus elegans</i>	10.3917	3.1723	1.1110	1.8962	16.5712
8	<i>Canarium subulatum</i>	2.1038	0.6861	0.1664	0.3358	3.2920
9	<i>Dolichandrone serrulata</i>	1.9058	0.5919	0.1897	0.3363	3.0236
10	<i>Myrica esculenta</i>	1.8954	0.5885	0.1855	0.3333	3.0027
11	<i>Sapindus rarak</i>	1.5048	0.4804	0.1304	0.2504	2.3659
12	<i>Albizia odoratissima</i>	1.2230	0.3726	0.1346	0.2251	1.9554
13	<i>Symplocos sp.</i>	1.1250	0.3527	0.1055	0.1941	1.7773
14	<i>Garuga pinnata</i>	1.0649	0.3327	0.1014	0.1849	1.6838
15	<i>Elaeocarpus sphaericus</i>	0.8343	0.2483	0.0992	0.1599	1.3416
16	<i>Wendlandia tinctoria</i>	0.5949	0.1624	0.1028	0.1351	0.9952
17	<i>Gluta obovata</i>	0.5605	0.1580	0.0838	0.1194	0.9216
18	<i>Blumea balsamifera</i>	0.5303	0.1585	0.0610	0.1004	0.8502
19	<i>Markhamia stipulata</i>	0.5075	0.1471	0.0686	0.1028	0.8261
20	<i>Colona flagrocarpa</i>	0.3675	0.1031	0.0558	0.0789	0.6052
21	<i>Gluta usitata</i>	0.3368	0.0932	0.0548	0.0745	0.5593
22	<i>Engelhardtia serrata</i>	0.2289	0.0649	0.0331	0.0481	0.3749
23	<i>Gmelina arborea</i>	0.1946	0.0536	0.0324	0.0434	0.3241
24	<i>Aporosa villosa</i>	0.1575	0.0436	0.0252	0.0347	0.2610
25	<i>Magnolia henryi</i>	0.1481	0.0395	0.0282	0.0352	0.2510
26	<i>Castanopsis acuminatissima</i>	0.0921	0.0246	0.0171	0.0217	0.1554
27	<i>Vaccinium sprengelii</i>	0.0854	0.0228	0.0161	0.0203	0.1446
28	<i>Erythrina subumbrans</i>	0.0839	0.0223	0.0159	0.0200	0.1421
29	<i>Acacia megaladena</i>	0.0767	0.0203	0.0149	0.0185	0.1303
30	<i>Symplocos racemosa</i>	0.0473	0.0117	0.0124	0.0130	0.0844
31	<i>Phyllanthus emblica</i>	0.0423	0.0102	0.0126	0.0123	0.0775
32	<i>Syzygium albiflorum</i>	0.0360	0.0090	0.0093	0.0098	0.0641
33	<i>Morinda tomentosa</i>	0.0116	0.0027	0.0038	0.0035	0.0216
34	<i>Phoebe paniculata</i>	0.0074	0.0017	0.0027	0.0024	0.0143
35	<i>Camellia pleurocarpa</i>	0.0041	0.0009	0.0018	0.0014	0.0083
36	<i>Lithocarpus sootepensis</i>	0.0017	0.0004	0.0009	0.0007	0.0037
	Total	260	120	33	96	508

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>31 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	41.5436	33.3917	10.8415	38.1240	123.9008
2	<i>Castanopsis diversifolia</i>	107.6808	36.6742	7.5199	16.0303	167.9052
3	<i>Schima wallichii</i>	83.4808	27.7220	6.4743	13.0392	130.7163
4	<i>Castanopsis acuminatissima</i>	36.2230	12.3752	2.3992	5.3051	56.3025
5	<i>Syzygium albiflorum</i>	21.2400	7.8723	1.0462	2.6773	32.8357
6	<i>Wendlandia tinctoria</i>	18.9740	5.4210	2.7241	3.9538	31.0729
7	<i>Myrica esculenta</i>	8.4909	2.6917	0.7725	1.4391	13.3942
8	<i>Olea salicifolia</i>	8.3511	2.8439	0.5480	1.2241	12.9671
9	<i>Syzygium cumini</i>	8.3616	2.9648	0.4699	1.1361	12.9324
10	<i>Helicia terminalis</i>	7.8189	2.3945	0.8384	1.4237	12.4755
11	<i>Elaeocarpus sphaericus</i>	4.6924	1.4557	0.4773	0.8335	7.4589
12	<i>Ternstroemia gymnanthera</i>	4.4607	1.4441	0.3827	0.7308	7.0183
13	<i>Dalbergia cultrata</i>	4.1243	1.3435	0.3278	0.6597	6.4553
14	<i>Canarium subulatum</i>	3.7125	1.2012	0.3037	0.6017	5.8191
15	<i>Docynia indica</i>	2.2090	0.6795	0.2270	0.3965	3.5120
16	<i>Symplocos sp.</i>	1.8429	0.5499	0.2158	0.3511	2.9596
17	<i>Phoebe paniculata</i>	1.8183	0.5617	0.1837	0.3235	2.8872
18	<i>Anneslea fragrans</i>	1.7623	0.5168	0.2221	0.3472	2.8485
19	<i>Phyllanthus emblica</i>	1.2859	0.3578	0.2048	0.2815	2.1301
20	<i>Rapanea porteriana</i>	1.0252	0.2885	0.1549	0.2192	1.6879
21	<i>Eurya nitida</i>	0.9246	0.2765	0.1074	0.1755	1.4839
22	<i>Gluta obovata</i>	0.8850	0.2621	0.1113	0.1727	1.4311
23	<i>Engelhardtia spicata</i>	0.6009	0.1672	0.0967	0.1319	0.9967
24	<i>Diospyros glandulosa</i>	0.5047	0.1465	0.0671	0.1016	0.8199
25	<i>Helicia nilagirica</i>	0.4902	0.1417	0.0675	0.1000	0.7994
26	<i>Gochmatia decora</i>	0.4604	0.1364	0.0550	0.0887	0.7406
27	<i>Styrax benzoides</i>	0.3334	0.0968	0.0435	0.0669	0.5406
28	<i>Albizia odoratissima</i>	0.3254	0.0943	0.0428	0.0655	0.5279
29	<i>Betula alnoides</i>	0.3171	0.0918	0.0420	0.0640	0.5148
30	<i>Glochidion sphaerogynum</i>	0.2402	0.0683	0.0343	0.0502	0.3930
31	<i>Memecylon celastrinum</i>	0.2276	0.0604	0.0455	0.0550	0.3884
32	<i>Lithocarpus thomsonii</i>	0.1867	0.0522	0.0285	0.0402	0.3077
33	<i>Ardisia attenuata</i>	0.1551	0.0429	0.0249	0.0342	0.2572
34	<i>Turpinia pomifera</i>	0.0909	0.0243	0.0169	0.0214	0.1535
35	<i>Eriolaena candollei</i>	0.0204	0.0050	0.0057	0.0058	0.0369
36	<i>Ficus tinctoria</i>	0.0146	0.0035	0.0045	0.0043	0.0269
37	<i>Ficus maclellandii</i>	0.0021	0.0004	0.0011	0.0008	0.0044
38	<i>Acacia megaladena</i>	0.0017	0.0004	0.0009	0.0007	0.0037
39	<i>Erythrina subumbrans</i>	0.0006	0.0001	0.0004	0.0003	0.0014
	Total	375	144	37	90	647

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>32 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	81.6107	62.6197	21.3196	75.9501	241.5001
2	<i>Schima wallichii</i>	99.2696	33.9922	6.6242	14.5333	154.4193
3	<i>Syzygium cumini</i>	37.7606	14.7754	1.3614	4.2122	58.1096
4	<i>Castanopsis acuminatissima</i>	28.0952	9.4861	1.9189	4.1912	43.6914
5	<i>Phoebe paniculata</i>	11.1477	3.9560	0.6288	1.5157	17.2483
6	<i>Xanthophyllum virens</i>	8.1782	2.7340	0.6013	1.2536	12.7671
7	<i>Elaeocarpus sphaericus</i>	6.5488	2.0729	0.5964	1.1116	10.3297
8	<i>Magnolia henryi</i>	6.3762	2.2107	0.3956	0.9063	9.8887
9	<i>Castanopsis tribuloides</i>	5.1860	1.7141	0.3872	0.8062	8.0934
10	<i>Knema erratica</i>	4.5300	1.5505	0.2908	0.6574	7.0286
11	<i>Betula alnoides</i>	3.7902	1.2828	0.2554	0.5623	5.8906
12	<i>Albizia chinensis</i>	3.1122	1.0403	0.2213	0.4732	4.8469
13	<i>Engelhardtia spicata</i>	2.3308	0.7324	0.2164	0.4002	3.6797
14	<i>Erythrina subumbrans</i>	2.0970	0.6837	0.1660	0.3348	3.2816
15	<i>Myrica esculenta</i>	1.4914	0.4547	0.1598	0.2724	2.3782
16	<i>Glochidion sphaerogynum</i>	1.2219	0.3766	0.1284	0.2198	1.9467
17	<i>Symplocos sp.</i>	1.1472	0.3601	0.1070	0.1974	1.8116
18	<i>Anneslea fragrans</i>	1.0946	0.3425	0.1034	0.1894	1.7300
19	<i>Styrax benzoides</i>	0.8644	0.2517	0.1130	0.1730	1.4020
20	<i>Luvunga scandens</i>	0.6187	0.1868	0.0683	0.1149	0.9887
21	<i>Musa acuminata</i>	0.3905	0.1085	0.0629	0.0859	0.6478
22	<i>Syzygium sp.</i>	0.3872	0.1116	0.0553	0.0797	0.6339
23	<i>Gmelina arborea</i>	0.1867	0.0522	0.0285	0.0402	0.3077
24	<i>Eurya nitida</i>	0.1781	0.0497	0.0276	0.0386	0.2940
25	<i>Syzygium albiflorum</i>	0.1000	0.0241	0.0293	0.0289	0.1824
26	<i>Memecylon celastrinum</i>	0.0935	0.0250	0.0172	0.0219	0.1577
27	<i>Wendlandia tinctoria</i>	0.0744	0.0183	0.0197	0.0206	0.1331
28	<i>Phyllanthus emblica</i>	0.0492	0.0122	0.0128	0.0135	0.0878
29	<i>Olea salicifolia</i>	0.0365	0.0092	0.0087	0.0096	0.0641
30	<i>Syzygium sp.</i>	0.0312	0.0078	0.0078	0.0084	0.0552
31	<i>Milletia pachycarpa</i>	0.0175	0.0040	0.0061	0.0055	0.0332
32	<i>Litsea cubeba</i>	0.0082	0.0016	0.0058	0.0035	0.0191
33	<i>Albizia odoratissima</i>	0.0047	0.0010	0.0020	0.0016	0.0093
34	<i>Trichilla connaroides</i>	0.0017	0.0004	0.0009	0.0007	0.0037
	Total	308	141	36	108	594

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	33 year-old pine plantation					
1	<i>Pinus kesiya</i>	121.0030	98.6796	31.5650	110.3744	361.6221
2	<i>Musa acuminata</i>	9.1340	2.3970	1.8818	2.2462	15.6590
3	<i>Wendlandia tinctoria</i>	7.4377	2.6227	0.4265	1.0205	11.5075
4	<i>Cinnamomum iners</i>	5.4747	1.7685	0.4532	0.8909	8.5873
5	<i>Albizia chinensis</i>	3.1212	1.0435	0.2217	0.4744	4.8608
6	<i>Magnolia henryi</i>	2.7598	0.9132	0.2084	0.4293	4.3107
7	<i>Mallotus barbatus</i>	1.2171	0.3553	0.1721	0.2474	1.9919
8	<i>Dalbergia oliveri</i>	0.3219	0.0932	0.0424	0.0648	0.5224
9	<i>Litsea cubeba</i>	0.1803	0.0426	0.0595	0.0547	0.3372
10	<i>Glochidion acuminatum</i>	0.1880	0.0481	0.0445	0.0490	0.3295
11	<i>Ilex umbellulata</i>	0.1670	0.0464	0.0263	0.0365	0.2762
12	<i>Melastoma sanguineum</i>	0.0889	0.0209	0.0298	0.0272	0.1668
13	<i>Grewia laevigata</i>	0.0751	0.0196	0.0160	0.0187	0.1294
14	<i>Ficus ribes</i>	0.0652	0.0153	0.0221	0.0200	0.1227
15	<i>Tadehagi triquetrum</i>	0.0596	0.0135	0.0228	0.0195	0.1153
16	<i>Artocarpus lacucha</i>	0.0598	0.0137	0.0223	0.0192	0.1151
17	<i>Laportea bulbifera</i>	0.0584	0.0139	0.0180	0.0173	0.1076
18	<i>Sapindus rarak</i>	0.0529	0.0124	0.0177	0.0162	0.0992
19	<i>Saurauia napaulensis</i>	0.0460	0.0098	0.0234	0.0171	0.0964
20	<i>Archidendron clypearia</i>	0.0441	0.0105	0.0137	0.0131	0.0815
21	<i>Horsfieldia tomentosa</i>	0.0439	0.0108	0.0118	0.0122	0.0787
22	<i>Phoebe cathia</i>	0.0412	0.0102	0.0109	0.0114	0.0737
23	<i>Ficus sp.</i>	0.0380	0.0092	0.0110	0.0109	0.0692
24	<i>Lindera metcalfiana</i>	0.0289	0.0066	0.0111	0.0094	0.0560
25	<i>Mussaenda sanderiana</i>	0.0255	0.0057	0.0109	0.0087	0.0508
26	<i>Milletia pachycarpa</i>	0.0266	0.0063	0.0082	0.0079	0.0489
27	<i>Alangium chinensis</i>	0.0262	0.0063	0.0080	0.0077	0.0482
28	<i>Neolitsea zeylanica</i>	0.0211	0.0046	0.0094	0.0074	0.0425
29	<i>Myrica esculenta</i>	0.0140	0.0032	0.0055	0.0046	0.0273
30	<i>Trevesia palmata</i>	0.0139	0.0032	0.0048	0.0043	0.0262
31	<i>Litsea monopetala</i>	0.0124	0.0029	0.0040	0.0037	0.0230
32	<i>Aegialitis rotundifolia</i>	0.0120	0.0027	0.0047	0.0040	0.0233
33	<i>Nyssa javanica</i>	0.0098	0.0020	0.0064	0.0041	0.0223
34	<i>Schima wallichii</i>	0.0099	0.0022	0.0045	0.0035	0.0200
35	<i>Ardisia attenuata</i>	0.0099	0.0022	0.0040	0.0033	0.0195
36	<i>Bridelia retusa</i>	0.0087	0.0019	0.0039	0.0031	0.0176
37	<i>Sorbus granulosa</i>	0.0090	0.0021	0.0031	0.0028	0.0171
38	<i>Phoebe paniculata</i>	0.0084	0.0018	0.0038	0.0029	0.0170
39	<i>Ampelocissus martinii</i>	0.0076	0.0016	0.0037	0.0028	0.0157
40	<i>Rauvolfia cambodiana</i>	0.0046	0.0009	0.0028	0.0019	0.0103
41	<i>Desmodium megaphyllum</i>	0.0034	0.0007	0.0024	0.0015	0.0079
42	<i>Eurya nitida</i>	0.0035	0.0008	0.0016	0.0012	0.0071
43	<i>Tetrastigma quadrangulatum</i>	0.0033	0.0007	0.0015	0.0012	0.0067
44	<i>Canthium berberidifolium</i>	0.0031	0.0006	0.0019	0.0012	0.0068
45	<i>Rubus rugosus</i>	0.0029	0.0006	0.0015	0.0011	0.0061
46	<i>Terminalia chebula</i>	0.0024	0.0005	0.0012	0.0009	0.0051
47	<i>Macaranga kurzii</i>	0.0017	0.0003	0.0009	0.0006	0.0036
48	<i>Glochidion hirsutum</i>	0.0012	0.0002	0.0007	0.0005	0.0026
49	<i>Turpinia cochinchinensis</i>	0.0012	0.0002	0.0007	0.0005	0.0026
50	<i>Ficus hispida</i>	0.0010	0.0002	0.0006	0.0004	0.0022
51	<i>Gaultheria notabilis</i>	0.0006	0.0001	0.0005	0.0003	0.0015
52	<i>Stereospermum neuranthum</i>	0.0006	0.0001	0.0004	0.0003	0.0014
53	<i>Fraxinus floribunda</i>	0.0004	0.0001	0.0004	0.0002	0.0012
	Total	152	108	35	116	412

Table 3-7 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>34 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	55.5501	43.3757	14.5074	51.5148	164.9480
2	<i>Castanopsis purpurea</i>	118.6247	38.9315	9.5167	18.8924	185.9653
3	<i>Quercus vestita</i>	53.9635	18.5845	3.4615	7.7822	83.7917
4	<i>Schima wallichii</i>	38.8775	13.6280	2.3050	5.4120	60.2225
5	<i>Quercus brandisiana</i>	26.2131	8.5356	2.1841	4.2433	41.1761
6	<i>Syzygium cumini</i>	12.7840	4.6718	0.6188	1.6311	19.7058
7	<i>Wendlandia tinctoria</i>	6.4828	1.8348	0.9651	1.3741	10.6569
8	<i>Dalbergia assamica</i>	6.0439	1.8789	0.6444	1.0825	9.6498
9	<i>Viburnum sambucinum</i>	3.3246	1.1039	0.2495	0.5149	5.1929
10	<i>Aporosa villosa</i>	2.7049	0.7642	0.4107	0.5769	4.4566
11	<i>Glochidion sphaerogynum</i>	2.1908	0.6568	0.2665	0.4195	3.5336
12	<i>Craibiodendron stellatum</i>	1.6666	0.4908	0.2177	0.3296	2.7048
13	<i>Lithocarpus elegans</i>	1.5618	0.4886	0.1539	0.2730	2.4772
14	<i>Albizia odoratissima</i>	1.4499	0.4184	0.1950	0.2946	2.3578
15	<i>Phyllanthus emblica</i>	1.1545	0.2916	0.2853	0.3074	2.0387
16	<i>Cycas pectinata</i>	0.9802	0.2844	0.1312	0.1978	1.5936
17	<i>Lithocarpus sootepensis</i>	0.9518	0.2952	0.0934	0.1676	1.5081
18	<i>Stereospermum colias</i>	0.8523	0.2625	0.0862	0.1522	1.3532
19	<i>Vaccinium sprengelii</i>	0.6025	0.1779	0.0772	0.1183	0.9759
20	<i>Glochidion hirsutum</i>	0.5778	0.1564	0.1037	0.1335	0.9714
21	<i>Eriolaena candollei</i>	0.5653	0.1563	0.0926	0.1253	0.9395
22	<i>Horsfieldia tomentosa</i>	0.2352	0.0668	0.0338	0.0493	0.3850
23	<i>Albizia chinensis</i>	0.1677	0.0466	0.0264	0.0366	0.2773
24	<i>Canarium subulatum</i>	0.1534	0.0424	0.0247	0.0339	0.2544
25	<i>Anneslea fragrans</i>	0.1274	0.0334	0.0266	0.0315	0.2189
26	<i>Pavetta tomentosa</i>	0.1049	0.0276	0.0219	0.0258	0.1802
27	<i>Helicia nilagirica</i>	0.0846	0.0220	0.0182	0.0212	0.1459
28	<i>Styrax benzoides</i>	0.0817	0.0215	0.0167	0.0200	0.1398
29	<i>Diospyros glandulosa</i>	0.0722	0.0190	0.0143	0.0175	0.1231
30	<i>Gluta usitata</i>	0.0722	0.0190	0.0143	0.0175	0.1231
31	<i>Antidesma acidum</i>	0.0598	0.0145	0.0170	0.0170	0.1084
32	<i>Dalbergia cultrata</i>	0.0528	0.0136	0.0114	0.0133	0.0911
33	<i>Phoebe paniculata</i>	0.0438	0.0105	0.0131	0.0128	0.0801
34	<i>Canthium sp.</i>	0.0427	0.0101	0.0139	0.0129	0.0795
35	<i>Engelhardtia spicata</i>	0.0387	0.0093	0.0117	0.0114	0.0711
36	<i>Protium serratum</i>	0.0190	0.0041	0.0087	0.0067	0.0386
37	<i>Dillenia aurea</i>	0.0170	0.0040	0.0057	0.0052	0.0319
38	<i>Syzygium albiflorum</i>	0.0142	0.0031	0.0062	0.0049	0.0284
39	<i>Rhus javanica</i>	0.0074	0.0016	0.0037	0.0027	0.0155
40	<i>Tristania rufescens</i>	0.0057	0.0013	0.0022	0.0019	0.0110
41	<i>Symplocos racemosa</i>	0.0051	0.0011	0.0021	0.0017	0.0101
42	<i>Schoepfia fragrans</i>	0.0047	0.0010	0.0020	0.0016	0.0093
43	<i>Litsea cubeba</i>	0.0047	0.0010	0.0020	0.0016	0.0093
44	<i>Maesa permollis</i>	0.0035	0.0007	0.0021	0.0014	0.0077
45	<i>Blumea balsamifera</i>	0.0035	0.0008	0.0016	0.0012	0.0071
46	<i>Castanopsis diversifolia</i>	0.0024	0.0005	0.0012	0.0009	0.0051
47	<i>Eurya nitida</i>	0.0017	0.0004	0.0009	0.0007	0.0037
48	<i>Celastrus paniculata</i>	0.0017	0.0003	0.0009	0.0006	0.0036
49	<i>Tadehagi triquetrum</i>	0.0013	0.0003	0.0008	0.0005	0.0029
50	<i>Engelhardtia serrata</i>	0.0012	0.0002	0.0007	0.0005	0.0026
	Total	339	137	37	96	609

Table 3-8 Calcium storages of tree species in a series of pine plantations

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>14 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	22.7544	43.7038	4.2278	104.9912	175.6772
2	<i>Glochidion sphaerogynum</i>	97.2940	28.6860	7.3264	28.7955	162.1019
3	<i>Schima wallichii</i>	53.5696	17.3008	2.7384	13.2687	86.8775
4	<i>Albizia chinensis</i>	34.8482	11.2419	1.7435	8.5934	56.4271
5	<i>Callicarpa arborea</i>	16.8901	5.3541	0.9122	4.3129	27.4694
6	<i>Litsea sp.</i>	15.2518	4.5608	1.0514	4.3606	25.2246
7	<i>Castanopsis diversifolia</i>	14.3644	4.6950	0.6730	3.4444	23.1768
8	<i>Ficus ribes</i>	11.8059	3.7343	0.6319	3.0145	19.1866
9	<i>Eriolaena candollei</i>	10.4658	3.2922	0.5843	2.7124	17.0548
10	<i>Myrica esculenta</i>	9.0343	2.7961	0.5508	2.4295	14.8106
11	<i>Syzygium cumini</i>	8.5576	2.8021	0.4027	2.0505	13.8129
12	<i>Engelhardtia spicata</i>	8.1477	2.4305	0.5902	2.3623	13.5307
13	<i>Archidendron clypearia</i>	8.1713	2.7010	0.3608	1.9121	13.1451
14	<i>Ficus callosa</i>	7.5315	2.1852	0.5884	2.2823	12.5874
15	<i>Albizia odoratissima</i>	6.2862	2.0438	0.2981	1.5196	10.1477
16	<i>Phyllanthus emblica</i>	3.4111	0.9020	0.3998	1.2422	5.9550
17	<i>Phoebe lanceolata</i>	3.1036	0.9651	0.1783	0.8189	5.0659
18	<i>Grewia laevigata</i>	3.0056	0.9327	0.1742	0.7962	4.9088
19	<i>Litsea monopetala</i>	1.1747	0.3321	0.1030	0.3749	1.9846
20	<i>Colona flagrocarpa</i>	0.9275	0.2564	0.0888	0.3086	1.5812
21	<i>Memecylon celastrinum</i>	0.9151	0.2532	0.0875	0.3042	1.5600
22	<i>Ternstroemia gymnanthera</i>	0.7797	0.2096	0.0849	0.2747	1.3488
23	<i>Wendlandia tinctoria</i>	0.6838	0.1848	0.0723	0.2379	1.1788
24	<i>Eurya nitida</i>	0.6217	0.1747	0.0553	0.2002	1.0519
25	<i>Glochidion hirsutum</i>	0.5789	0.1511	0.0707	0.2155	1.0163
26	<i>Horsfieldia tomentosa</i>	0.4168	0.1096	0.0495	0.1530	0.7289
27	<i>Dolichandrone serrulata</i>	0.3939	0.1016	0.0514	0.1506	0.6975
28	<i>Aporosa villosa</i>	0.3924	0.1033	0.0467	0.1441	0.6864
29	<i>Syzygium albiflorum</i>	0.2638	0.0644	0.0439	0.1126	0.4846
30	<i>Flacourtia indica</i>	0.1495	0.0384	0.0196	0.0575	0.2650
31	<i>Congea tomentosa</i>	0.1326	0.0338	0.0180	0.0517	0.2361
32	<i>Flemingia lineata</i>	0.0625	0.0152	0.0104	0.0268	0.1149
33	<i>Stereospermum neuranthum</i>	0.0345	0.0081	0.0067	0.0159	0.0651
34	<i>Glochidion acuminatum</i>	0.0116	0.0024	0.0037	0.0067	0.0244
35	<i>Melastoma sanguineum</i>	0.0050	0.0010	0.0017	0.0029	0.0106
36	<i>Micromelum minutum</i>	0.0036	0.0007	0.0013	0.0022	0.0078
	Total	342	142	24	192	700

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	15 year-old pine plantation					
1	<i>Pinus kesiya</i>	9.0554	16.4898	1.6847	42.5577	69.7876
2	<i>Schima wallichii</i>	61.9673	19.5672	3.5324	16.0828	101.1497
3	<i>Castanopsis acuminatissima</i>	52.6339	17.8942	2.0757	11.6759	84.2797
4	<i>Engelhardtia spicata</i>	30.7110	9.7128	1.6762	7.8796	49.9795
5	<i>Beilschmiedia gammieana</i>	30.8859	10.5708	1.2348	6.8273	49.5187
6	<i>Dillenia aurea</i>	23.8111	8.1588	0.9495	5.2553	38.1747
7	<i>Ternstroemia gymnanthera</i>	22.8402	6.9921	1.4220	6.2342	37.4885
8	<i>Helicia terminalis</i>	16.7393	5.2686	0.9359	4.3381	27.2818
9	<i>Phoebe paniculata</i>	13.8873	4.0384	1.1191	4.2303	23.2750
10	<i>Trichilla connaroides</i>	13.1774	4.3641	0.5943	3.0910	21.2269
11	<i>Stereospermum neuranthum</i>	12.2203	3.9952	0.5709	2.9288	19.7152
12	<i>Elaeocarpus sphaericus</i>	7.9919	2.5807	0.4091	1.9780	12.9597
13	<i>Helicia nilagirica</i>	6.6310	1.9763	0.4607	1.9049	10.9728
14	<i>Dalbergia assamica</i>	6.5739	2.1434	0.3079	1.5804	10.6056
15	<i>Castanopsis diversifolia</i>	5.1712	1.6507	0.2738	1.3036	8.3992
16	<i>Glochidion sphaerogynum</i>	4.5911	1.3598	0.3605	1.3647	7.6762
17	<i>Lindera metcalifiana</i>	4.4354	1.1762	0.5334	1.6197	7.7647
18	<i>Memecylon celastrinum</i>	4.1047	1.0860	0.5125	1.5146	7.2179
19	<i>Pyrenaria diospyricarpa</i>	3.5198	0.8771	0.5424	1.4461	6.3854
20	<i>Eurya nitida</i>	3.2605	0.9073	0.3153	1.0805	5.5637
21	<i>Wendlandia tinctoria</i>	2.9253	0.8264	0.2606	0.9379	4.9502
22	<i>Magnolia henryi</i>	2.1078	0.6012	0.1807	0.6635	3.5531
23	<i>Diospyros glandulosa</i>	1.4425	0.3800	0.1827	0.5363	2.5415
24	<i>Eriolaena candollei</i>	1.1787	0.3448	0.0881	0.3507	1.9623
25	<i>Symplocos henschelii</i>	1.1234	0.3181	0.1002	0.3593	1.9010
26	<i>Glochidion acuminatum</i>	0.7482	0.1670	0.2008	0.3895	1.5055
27	<i>Vitex canescens</i>	0.8461	0.2424	0.0692	0.2623	1.4200
28	<i>Phoebe cathia</i>	0.6374	0.1717	0.0680	0.2230	1.1000
29	<i>Saurauia roxburghii</i>	0.5743	0.1488	0.0752	0.2190	1.0173
30	<i>Archidendron clypearia</i>	0.4211	0.1036	0.0703	0.1784	0.7734
31	<i>Albizia odoratissima</i>	0.2763	0.0702	0.0383	0.1086	0.4934
32	<i>Quercus semiserrata</i>	0.2529	0.0657	0.0323	0.0956	0.4465
33	<i>Turpinia cochinchinensis</i>	0.2260	0.0596	0.0265	0.0825	0.3945
34	<i>Melastoma sanguineum</i>	0.1245	0.0254	0.0456	0.0759	0.2715
35	<i>Rhus javanica</i>	0.0955	0.0233	0.0167	0.0411	0.1766
36	<i>Phyllanthus emblica</i>	0.0909	0.0221	0.0154	0.0391	0.1675
37	<i>Blumea balsamifera</i>	0.0288	0.0059	0.0100	0.0172	0.0619
38	<i>Micromelum minutum</i>	0.0201	0.0042	0.0066	0.0118	0.0427
39	<i>Mussaenda sanderiana</i>	0.0154	0.0034	0.0037	0.0079	0.0304
40	<i>Lepisanthes rubiginosa</i>	0.0132	0.0027	0.0044	0.0078	0.0281
41	<i>Fissistigma minuticalyx</i>	0.0050	0.0010	0.0017	0.0029	0.0106
42	<i>Ampelocissus martinii</i>	0.0032	0.0007	0.0012	0.0020	0.0071
43	<i>Litsea monopetala</i>	0.0029	0.0006	0.0011	0.0018	0.0064
44	<i>Eurya acuminata</i>	0.0026	0.0005	0.0010	0.0016	0.0058
45	<i>Cinnamomum iners</i>	0.0023	0.0004	0.0009	0.0015	0.0051
46	<i>Euodia roxburghiana</i>	0.0021	0.0004	0.0009	0.0014	0.0048
47	<i>Milletia pachycarpa</i>	0.0020	0.0004	0.0009	0.0013	0.0046
48	<i>Litsea cubeba</i>	0.0013	0.0003	0.0006	0.0009	0.0031
49	<i>Arytera littoralis</i>	0.0013	0.0003	0.0006	0.0009	0.0031
50	<i>Myrica esculenta</i>	0.0013	0.0002	0.0006	0.0009	0.0030
51	<i>Styrax benzoides</i>	0.0012	0.0002	0.0006	0.0009	0.0029
52	<i>Litsea glutinosa</i>	0.0012	0.0002	0.0006	0.0008	0.0029
53	<i>Viburnum sambucinum</i>	0.0006	0.0001	0.0004	0.0005	0.0016
54	<i>Buddleja asiatica</i>	0.0004	0.0001	0.0003	0.0003	0.0010
	Total	347	124	21	130	622

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>16 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	47.4973	90.4744	8.8275	220.1092	366.9084
2	<i>Schima wallichii</i>	24.0031	7.3484	1.5032	6.5600	39.4147
3	<i>Canarium subulatum</i>	8.9089	2.7866	0.5044	2.3299	14.5298
4	<i>Wendlandia tinctoria</i>	8.4478	2.4459	0.6840	2.5875	14.1652
5	<i>Spatholobus parviflorus</i>	7.7129	2.4326	0.4171	1.9795	12.5421
6	<i>Engelhardtia spicata</i>	6.9467	2.1543	0.4117	1.8517	11.3644
7	<i>Phoebe paniculata</i>	6.6341	1.9663	0.4752	1.9289	11.0045
8	<i>Vitex peduncularis</i>	5.1705	1.5404	0.3629	1.4899	8.5637
9	<i>Glochidion sphaerogynum</i>	1.5851	0.4249	0.1743	0.5612	2.7455
10	<i>Ampelocissus martinii</i>	1.5389	0.4294	0.1424	0.5035	2.6143
11	<i>Musa acuminata</i>	1.4933	0.3862	0.1954	0.5701	2.6450
12	<i>Eriolaena candollei</i>	1.5553	0.4630	0.1078	0.4471	2.5731
13	<i>Phoebe cathia</i>	1.1575	0.3358	0.0936	0.3530	1.9399
14	<i>Lindera metcalfiana</i>	0.6907	0.1815	0.0994	0.2652	1.2368
15	<i>Glochidion acuminatum</i>	0.5080	0.1020	0.1951	0.3179	1.1230
16	<i>Glochidion hirsutum</i>	0.5307	0.1375	0.0676	0.2008	0.9366
17	<i>Melastoma sanguineum</i>	0.1255	0.0258	0.0444	0.0755	0.2711
18	<i>Saurauia roxburghii</i>	0.0793	0.0178	0.0188	0.0398	0.1556
19	<i>Eurya nitida</i>	0.0765	0.0167	0.0208	0.0408	0.1548
20	<i>Litsea cubeba</i>	0.0687	0.0144	0.0227	0.0399	0.1458
21	<i>Litsea monopetala</i>	0.0631	0.0142	0.0149	0.0316	0.1238
22	<i>Archidendron clypearia</i>	0.0349	0.0076	0.0096	0.0186	0.0707
23	<i>Trichilla connaroides</i>	0.0305	0.0063	0.0105	0.0181	0.0653
24	<i>Rauvolfia cambodiana</i>	0.0250	0.0050	0.0098	0.0158	0.0556
25	<i>Blumea balsamifera</i>	0.0179	0.0034	0.0084	0.0123	0.0420
26	<i>Ficus callosa</i>	0.0199	0.0045	0.0045	0.0098	0.0388
27	<i>Pyrenaria diospyricarpa</i>	0.0167	0.0033	0.0064	0.0104	0.0368
28	<i>Colona flagrocarpa</i>	0.0112	0.0022	0.0048	0.0074	0.0255
29	<i>Viburnum sambucinum</i>	0.0040	0.0008	0.0017	0.0026	0.0090
30	<i>Mussaenda sanderiana</i>	0.0028	0.0005	0.0013	0.0019	0.0065
31	<i>Diospyros glandulosa</i>	0.0024	0.0005	0.0010	0.0015	0.0053
32	<i>Artocarpus lacucha</i>	0.0024	0.0005	0.0010	0.0015	0.0053
33	<i>Micromelum minutum</i>	0.0017	0.0003	0.0007	0.0011	0.0039
	Total	125	114	14	242	496

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	17 year-old pine plantation					
1	<i>Pinus kesiya</i>	9.2956	16.1198	1.7314	44.3983	71.5451
2	<i>Schima wallichii</i>	58.8507	17.9895	3.7873	16.2162	96.8438
3	<i>Myrica esculenta</i>	49.0143	15.3904	2.8046	12.8060	80.0153
4	<i>Engelhardtia spicata</i>	41.2055	12.9503	2.5666	10.9852	67.7077
5	<i>Castanopsis diversifolia</i>	39.0836	12.2632	2.2640	10.2447	63.8554
6	<i>Quercus semiserrata</i>	38.4355	14.0056	1.1179	7.4291	60.9882
7	<i>Helicia terminalis</i>	31.7599	9.1444	2.6314	9.8313	53.3670
8	<i>Castanopsis acuminatissima</i>	25.0033	8.7566	0.8891	5.2583	39.9073
9	<i>Phoebe cathia</i>	22.4203	7.8689	0.7844	4.6849	35.7585
10	<i>Wendlandia tinctoria</i>	20.2074	5.8031	1.7198	6.3136	34.0439
11	<i>Syzygium albiflorum</i>	17.8501	5.6297	0.9716	4.5889	29.0404
12	<i>Elaeocarpus sphaericus</i>	15.3548	4.9217	0.7981	3.8439	24.9185
13	<i>Phyllanthus emblica</i>	12.6849	3.2940	1.6312	4.8037	22.4139
14	<i>Glochidion sphaerogynum</i>	7.3744	1.9604	0.8693	2.6763	12.8804
15	<i>Beilschmiedia gammieana</i>	6.8295	2.0351	0.4873	1.9740	11.3259
16	<i>Diospyros glandulosa</i>	6.1288	1.6686	0.6620	2.1279	10.5872
17	<i>Artocarpus lacucha</i>	6.2992	2.0477	0.2998	1.5240	10.1707
18	<i>Albizia chinensis</i>	4.9075	1.5708	0.2489	1.2233	7.9505
19	<i>Heterophragma sulfureum</i>	3.5462	1.0274	0.2854	1.0830	5.9421
20	<i>Trichilla connaroides</i>	2.5406	0.7122	0.2432	0.8342	4.3303
21	<i>Lithocarpus sp.</i>	2.4256	0.6820	0.2158	0.7807	4.1042
22	<i>Eurya nitida</i>	2.1697	0.5858	0.2354	0.7604	3.7513
23	<i>Albizia odoratissima</i>	2.1479	0.6441	0.1511	0.6142	3.5573
24	<i>Eriolaena candollei</i>	1.8363	0.5156	0.1669	0.5948	3.1136
25	<i>Dillenia aurea</i>	1.8160	0.5426	0.1283	0.5216	3.0085
26	<i>Phoebe paniculata</i>	1.5829	0.4453	0.1441	0.5117	2.6841
27	<i>Archidendron clypearia</i>	1.4351	0.3921	0.1493	0.4923	2.4688
28	<i>Garuga pinnata</i>	1.4373	0.4144	0.1164	0.4419	2.4100
29	<i>Ternstroemia gymnanthera</i>	1.3544	0.3868	0.1144	0.4243	2.2800
30	<i>Erythrina subumbrans</i>	1.1693	0.3419	0.0876	0.3483	1.9471
31	<i>Litsea glutinosa</i>	0.9720	0.2518	0.1266	0.3700	1.7204
32	<i>Helicia nilagirica</i>	1.0019	0.2901	0.0783	0.3042	1.6745
33	<i>Glochidion acuminatum</i>	0.7169	0.1572	0.2138	0.3905	1.4785
34	<i>Symplocos sp.</i>	0.6667	0.1772	0.0762	0.2402	1.1604
35	<i>Memecylon celastrinum</i>	0.5774	0.1421	0.0952	0.2440	1.0586
36	<i>Pyrenaria diospyricarpa</i>	0.5626	0.1329	0.1121	0.2585	1.0662
37	<i>Kydia calycina</i>	0.5927	0.1660	0.0534	0.1920	1.0041
38	<i>Glochidion hirsutum</i>	0.5080	0.1277	0.0733	0.2038	0.9129
39	<i>Melastoma sanguineum</i>	0.4434	0.0923	0.1488	0.2597	0.9442
40	<i>Arytera littoralis</i>	0.3910	0.0940	0.0781	0.1768	0.7400
41	<i>Rhus succedanea</i>	0.4092	0.1074	0.0490	0.1509	0.7164
42	<i>Cinnamomum iners</i>	0.3617	0.0934	0.0481	0.1387	0.6420
43	<i>Docynia indica</i>	0.3099	0.0780	0.0445	0.1241	0.5565
44	<i>Ampelocissus martinii</i>	0.3150	0.0828	0.0381	0.1161	0.5520
45	<i>Sapindus rarak</i>	0.1661	0.0416	0.0246	0.0673	0.2996
46	<i>Blumea balsamifera</i>	0.1443	0.0299	0.0497	0.0854	0.3093
47	<i>Carallia brachiata</i>	0.1446	0.0371	0.0191	0.0558	0.2566
48	<i>Xanthophyllum virens</i>	0.1111	0.0280	0.0158	0.0443	0.1991
49	<i>Lindera metcalfiana</i>	0.0818	0.0189	0.0183	0.0395	0.1585
50	<i>Litsea sp.</i>	0.0489	0.0107	0.0131	0.0260	0.0987
51	<i>Alstonia scholaris</i>	0.0475	0.0104	0.0126	0.0251	0.0956
52	<i>Symplocos henschelii</i>	0.0450	0.0103	0.0098	0.0216	0.0867
53	<i>Ilex umbellulata</i>	0.0338	0.0079	0.0066	0.0156	0.0640
54	<i>Catunaregam tomentosa</i>	0.0234	0.0051	0.0060	0.0122	0.0467
55	<i>Anneslea fragrans</i>	0.0157	0.0035	0.0038	0.0080	0.0310
56	<i>Saurauia roxburghii</i>	0.0104	0.0023	0.0028	0.0056	0.0211
57	<i>Spondias bipinnata</i>	0.0066	0.0014	0.0020	0.0038	0.0138
58	<i>Rhus javanica</i>	0.0066	0.0014	0.0020	0.0037	0.0137
59	<i>Viburnum sambucinum</i>	0.0049	0.0010	0.0016	0.0029	0.0104
60	<i>Euodia roxburghiana</i>	0.0040	0.0008	0.0019	0.0027	0.0094
61	<i>Quercus brandisiana</i>	0.0012	0.0002	0.0006	0.0008	0.0029
	Total	445	152	30	162	789

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	18 year-old pine plantation					
1	<i>Pinus kesiya</i>	35.4078	66.0134	6.5834	164.9988	273.0035
2	<i>Castanopsis purpurea</i>	60.6829	18.3412	4.1423	17.1444	100.3108
3	<i>Schima wallichii</i>	29.7163	9.3039	1.7704	7.8581	48.6487
4	<i>Eriolaena candollei</i>	28.6786	9.0373	1.6352	7.4639	46.8151
5	<i>Castanopsis acuminatissima</i>	26.9174	8.3194	1.6280	7.2316	44.0964
6	<i>Quercus vestita</i>	25.7595	7.5188	2.0098	7.7601	43.0483
7	<i>Castanopsis diversifolia</i>	24.7254	7.4664	1.6965	6.9982	40.8866
8	<i>Wendlandia tinctoria</i>	22.4902	6.0328	2.5237	8.0013	39.0481
9	<i>Glochidion sphaerogynum</i>	21.8586	6.3504	1.7586	6.6624	36.6299
10	<i>Dalbergia assamica</i>	16.9613	4.8090	1.6336	5.5358	28.9398
11	<i>Acacia megaladena</i>	15.5213	5.3426	0.5755	3.3541	24.7935
12	<i>Ternstroemia gymnanthera</i>	8.3812	2.3968	0.7012	2.6164	14.0955
13	<i>Archidendron clypearia</i>	7.9065	2.3533	0.5552	2.2804	13.0954
14	<i>Albizia odoratissima</i>	7.2428	2.3469	0.3565	1.7715	11.7177
15	<i>Phoebe lanceolata</i>	6.8578	2.0596	0.4662	1.9454	11.3290
16	<i>Ficus ribes</i>	6.6367	2.0780	0.3714	1.7291	10.8152
17	<i>Castanopsis tribuloides</i>	6.5058	2.0327	0.3670	1.7016	10.6071
18	<i>Helicia terminalis</i>	5.3392	1.5814	0.3842	1.5558	8.8607
19	<i>Lithocarpus sootepensis</i>	5.2078	1.5050	0.4135	1.5900	8.7163
20	<i>Erythrina subumbrans</i>	4.0181	1.2261	0.2531	1.1032	6.6005
21	<i>Syzygium cumini</i>	3.9892	1.1826	0.2835	1.1581	6.6133
22	<i>Eurya nitida</i>	3.7313	1.0419	0.3454	1.2204	6.3390
23	<i>Syzygium albiflorum</i>	3.5784	0.9795	0.3741	1.2283	6.1602
24	<i>Phyllanthus emblica</i>	3.4060	0.8938	0.4165	1.2620	5.9783
25	<i>Diospyros glandulosa</i>	3.3600	0.9498	0.2964	1.0743	5.6805
26	<i>Stereospermum neuranthum</i>	2.7674	0.8087	0.2114	0.8285	4.6160
27	<i>Protium serratum</i>	2.6274	0.7752	0.1898	0.7692	4.3616
28	<i>Aporosa villosa</i>	2.5149	0.6649	0.2992	0.9194	4.3984
29	<i>Elaeocarpus sphaericus</i>	2.2619	0.6895	0.1416	0.6207	3.7137
30	<i>Engelhardtia spicata</i>	2.2526	0.6864	0.1412	0.6185	3.6987
31	<i>Gluta obovata</i>	1.9476	0.5347	0.1949	0.6593	3.3364
32	<i>Magnolia henryi</i>	1.6199	0.4670	0.1304	0.4974	2.7147
33	<i>Dillenia aurea</i>	1.6079	0.4642	0.1322	0.4952	2.6995
34	<i>Pterospermum acerifolium</i>	1.5745	0.4691	0.1088	0.4519	2.6043
35	<i>Symplocos sp.</i>	1.4855	0.4246	0.1236	0.4634	2.4971
36	<i>Anneslea fragrans</i>	1.0892	0.3170	0.0832	0.3272	1.8166
37	<i>Dolichandrone serrulata</i>	0.8882	0.2405	0.0935	0.3082	1.5305
38	<i>Docynia indica</i>	0.8945	0.2571	0.0721	0.2754	1.4991
39	<i>Callicarpa arborea</i>	0.5548	0.1509	0.0578	0.1913	0.9548
40	<i>Gmelina arborea</i>	0.5064	0.1404	0.0476	0.1673	0.8618
41	<i>Colona flagrocarpa</i>	0.3381	0.0914	0.0355	0.1174	0.5824
42	<i>Helicia nilagirica</i>	0.3034	0.0815	0.0328	0.1068	0.5245
43	<i>Vaccinium sprengelii</i>	0.2296	0.0585	0.0315	0.0899	0.4095
44	<i>Symplocos racemosa</i>	0.2063	0.0518	0.0299	0.0830	0.3710
45	<i>Schoepfia fragrans</i>	0.2022	0.0529	0.0244	0.0749	0.3543
46	<i>Styrax benzoides</i>	0.0712	0.0175	0.0114	0.0300	0.1301
	Total	411	179	34	273	897

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>19 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	44.6976	79.5442	8.3197	211.4678	344.0293
2	<i>Castanopsis diversifolia</i>	54.0051	16.3520	3.6193	15.1622	89.1386
3	<i>Eriolaena candollei</i>	36.5320	11.2170	2.3323	10.0092	60.0905
4	<i>Castanopsis purpurea</i>	36.6860	12.3581	1.6576	8.4820	59.1838
5	<i>Albizia chinensis</i>	24.0557	7.3964	1.4761	6.5171	39.4453
6	<i>Wendlandia tinctoria</i>	20.6545	5.8563	1.8959	6.6535	35.0602
7	<i>Ternstroemia gymnanthera</i>	13.5173	4.3790	0.6733	3.3156	21.8851
8	<i>Gluta obovata</i>	9.8517	3.2951	0.4134	2.2524	15.8127
9	<i>Ficus ribes</i>	9.4836	2.8063	0.6860	2.7704	15.7464
10	<i>Schima wallichii</i>	9.0890	2.8328	0.5195	2.3902	14.8315
11	<i>Markhamia stipulata</i>	7.0803	2.1851	0.4246	1.9010	11.5910
12	<i>Syzygium cumini</i>	6.5470	2.0124	0.3997	1.7719	10.7309
13	<i>Phyllanthus emblica</i>	4.6286	1.2540	0.4943	1.6113	7.9882
14	<i>Dolichandrone serrulata</i>	4.2196	1.2306	0.3263	1.2694	7.0459
15	<i>Castanopsis acuminatissima</i>	4.0419	1.2780	0.2161	1.0321	6.5682
16	<i>Protium serratum</i>	3.8788	1.1359	0.2926	1.1554	6.4626
17	<i>Acacia megaladena</i>	3.3930	0.9986	0.2498	1.0002	5.6417
18	<i>Phoebe lanceolata</i>	3.1028	0.9517	0.1936	0.8455	5.0936
19	<i>Glochidion sphaerogynum</i>	2.9622	0.8066	0.3045	1.0170	5.0902
20	<i>Litsea monopetala</i>	2.4377	0.7466	0.1496	0.6628	3.9966
21	<i>Phoebe paniculata</i>	1.9257	0.5613	0.1479	0.5786	3.2135
22	<i>Elaeocarpus sphaericus</i>	1.6395	0.4897	0.1120	0.4682	2.7095
23	<i>Adinandra integerrima</i>	1.3252	0.3542	0.1484	0.4726	2.3004
24	<i>Albizia odoratissima</i>	0.9555	0.2758	0.0756	0.2918	1.5987
25	<i>Horsfieldia tomentosa</i>	0.6110	0.1585	0.0776	0.2309	1.0780
26	<i>Dalbergia velutina</i>	0.5718	0.1598	0.0520	0.1861	0.9698
27	<i>Xanthophyllum virens</i>	0.5572	0.1514	0.0584	0.1926	0.9595
28	<i>Stereospermum neuranthum</i>	0.4572	0.1260	0.0442	0.1530	0.7805
29	<i>Holarrhena pubescens</i>	0.3931	0.1051	0.0450	0.1408	0.6841
30	<i>Dillenia indica</i>	0.3874	0.1044	0.0422	0.1362	0.6701
31	<i>Pterospermum acerifolium</i>	0.3606	0.0979	0.0372	0.1243	0.6200
32	<i>Aporusa wallichii</i>	0.2989	0.0791	0.0352	0.1089	0.5221
33	<i>Helicia nilagirica</i>	0.2547	0.0676	0.0289	0.0916	0.4428
34	<i>Engelhardtia spicata</i>	0.1354	0.0331	0.0220	0.0574	0.2478
35	<i>Vaccinium sprengelii</i>	0.0833	0.0206	0.0128	0.0344	0.1511
36	<i>Syzygium albiflorum</i>	0.0574	0.0139	0.0098	0.0248	0.1058
37	<i>Cinnamomum iners</i>	0.0128	0.0028	0.0033	0.0067	0.0255
38	<i>Arytera littoralis</i>	0.0097	0.0020	0.0036	0.0060	0.0213
	Total	311	161	26	285	783

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>20 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	50.1262	89.8580	9.3285	236.5366	385.8492
2	<i>Bauhinia variegata</i>	23.0242	6.9982	1.5231	6.4209	37.9664
3	<i>Eriolaena candollei</i>	19.8547	6.0897	1.2406	5.4143	32.5994
4	<i>Syzygium albiflorum</i>	4.8125	1.4648	0.3088	1.3294	7.9155
5	<i>Castanopsis diversifolia</i>	3.2790	0.9563	0.2554	0.9882	5.4789
6	<i>Glochidion sphaerogynum</i>	3.1801	0.9904	0.1815	0.8366	5.1885
7	<i>Phyllanthus emblica</i>	2.1516	0.6108	0.1834	0.6794	3.6252
8	<i>Dolichandrone serrulata</i>	0.1912	0.0497	0.0241	0.0719	0.3369
9	<i>Syzygium cumini</i>	0.0914	0.0216	0.0176	0.0417	0.1722
10	<i>Arytera littoralis</i>	0.0758	0.0158	0.0245	0.0439	0.1601
11	<i>Aporosa villosa</i>	0.0574	0.0139	0.0098	0.0248	0.1058
12	<i>Wendlandia tinctoria</i>	0.0500	0.0120	0.0088	0.0220	0.0929
13	<i>Dillenia indica</i>	0.0436	0.0104	0.0080	0.0195	0.0816
14	<i>Litsea monopetala</i>	0.0328	0.0073	0.0082	0.0168	0.0650
15	<i>Phoebe paniculata</i>	0.0096	0.0021	0.0027	0.0052	0.0196
16	<i>Symplocos sp.</i>	0.0036	0.0007	0.0013	0.0022	0.0078
17	<i>Rhus javanica</i>	0.0024	0.0005	0.0010	0.0015	0.0053
	Total	107	107	13	252	480

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>21 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	51.8007	95.2523	9.6349	242.6588	399.3467
2	<i>Schima wallichii</i>	126.1398	40.3360	6.9167	32.1131	205.5057
3	<i>Castanopsis acuminatissima</i>	54.7980	17.3587	2.9551	14.0006	89.1124
4	<i>Anneslea fragrans</i>	53.5181	17.1855	2.8166	13.4175	86.9378
5	<i>Syzygium albiflorum</i>	39.7000	13.5907	1.8170	9.0293	64.1370
6	<i>Castanopsis diversifolia</i>	35.2518	11.9751	1.4320	7.8781	56.5371
7	<i>Lithocarpus elegans</i>	28.6250	9.1780	1.5169	7.2017	46.5216
8	<i>Wendlandia tinctoria</i>	21.7886	6.1015	2.1012	7.1830	37.1743
9	<i>Elaeocarpus sphaericus</i>	20.5547	6.2442	1.3965	5.7747	33.9702
10	<i>Myrica esculenta</i>	11.8597	3.7869	0.6160	2.9803	19.2429
11	<i>Buchanania lanzan</i>	11.3779	3.5056	0.7183	3.0960	18.6978
12	<i>Syzygium cumini</i>	8.1813	2.4515	0.5748	2.3447	13.5523
13	<i>Lithocarpus garrettianus</i>	7.8433	2.2282	0.6769	2.4827	13.2310
14	<i>Glochidion sphaerogynum</i>	7.1654	2.0009	0.6742	2.3529	12.1934
15	<i>Aporosa villosa</i>	4.9024	1.3314	0.5432	1.7204	8.4975
16	<i>Magnolia henryi</i>	4.8436	1.4950	0.2903	1.3002	7.9291
17	<i>Xanthophyllum virens</i>	3.5752	1.1217	0.1976	0.9269	5.8214
18	<i>Engelhardtia spicata</i>	2.9439	0.7981	0.3131	1.0232	5.0782
19	<i>Phoebe paniculata</i>	2.5646	0.7053	0.2536	0.8644	4.3880
20	<i>Albizia chinensis</i>	2.4329	0.7335	0.1634	0.6858	4.0156
21	<i>Symplocos sp.</i>	1.9599	0.5502	0.1766	0.6336	3.3203
22	<i>Engelhardtia serrata</i>	1.6640	0.4696	0.1469	0.5327	2.8131
23	<i>Dalbergia assamica</i>	1.6776	0.4973	0.1221	0.4893	2.7863
24	<i>Tristania rufescens</i>	1.1824	0.3003	0.1646	0.4659	2.1133
25	<i>Albizia odoratissima</i>	1.1611	0.3375	0.0908	0.3511	1.9405
26	<i>Phyllanthus emblica</i>	0.6952	0.1682	0.1198	0.3016	1.2848
27	<i>Diospyros glandulosa</i>	0.6890	0.1742	0.0967	0.2731	1.2330
28	<i>Holarrhena pubescens</i>	0.6714	0.1648	0.1084	0.2829	1.2276
29	<i>Styrax benzoides</i>	0.4923	0.1219	0.0770	0.2043	0.8955
30	<i>Gmelina arborea</i>	0.4617	0.1269	0.0457	0.1556	0.7899
31	<i>Vitex peduncularis</i>	0.4152	0.1025	0.0653	0.1729	0.7560
32	<i>Ampelocissus martinii</i>	0.3311	0.0832	0.0485	0.1333	0.5961
33	<i>Canarium subulatum</i>	0.2641	0.0659	0.0393	0.1074	0.4767
34	<i>Olea salicifolia</i>	0.2536	0.0634	0.0386	0.1036	0.4592
35	<i>Bombax anceps</i>	0.2568	0.0658	0.0344	0.0995	0.4565
36	<i>Eurya nitida</i>	0.2610	0.0694	0.0294	0.0936	0.4534
37	<i>Stereospermum neuranthum</i>	0.2330	0.0588	0.0339	0.0934	0.4191
38	<i>Canarium sp.</i>	0.0664	0.0162	0.0109	0.0282	0.1217
39	<i>Dalbergia foliacea</i>	0.0449	0.0107	0.0082	0.0200	0.0838
40	<i>Rapanea porteriiana</i>	0.0178	0.0036	0.0064	0.0108	0.0386
41	<i>Beilschmiedia gammieana</i>	0.0036	0.0007	0.0013	0.0022	0.0078
	Total	513	241	37	364	1,154

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	22 year-old pine plantation					
1	<i>Pinus kesiya</i>	34.1338	59.6817	6.3568	162.7770	262.9493
2	<i>Quercus brandisiana</i>	79.6304	24.2845	5.3165	22.1860	131.4175
3	<i>Quercus vestita</i>	38.1822	10.6155	3.6789	12.6614	65.1380
4	<i>Lithocarpus polystachyus</i>	33.6879	9.8788	2.5996	10.0800	56.2463
5	<i>Dalbergia cultrata</i>	25.0937	7.3613	1.9231	7.4906	41.8688
6	<i>Schima wallichii</i>	23.5055	7.0314	1.6176	6.7152	38.8697
7	<i>Wendlandia tinctoria</i>	19.9293	5.3410	2.2331	7.0910	34.5945
8	<i>Gluta obovata</i>	18.4821	5.7926	1.1091	4.8841	30.2678
9	<i>Lithocarpus elegans</i>	17.4164	4.8407	1.6726	5.7721	29.7019
10	<i>Tristania rufescens</i>	13.6854	3.7784	1.5013	4.7264	23.6914
11	<i>Lithocarpus sootepensis</i>	13.4211	3.7018	1.3482	4.5297	23.0007
12	<i>Castanopsis purpurea</i>	12.8852	3.4931	1.3711	4.4799	22.2293
13	<i>Ficus ribes</i>	10.5584	3.0058	0.9015	3.3268	17.7925
14	<i>Anneslea fragrans</i>	10.0011	2.8147	0.9200	3.2421	16.9779
15	<i>Erythrina subumbrans</i>	7.9947	2.6390	0.3551	1.8758	12.8645
16	<i>Litsea sp.</i>	7.7983	2.3876	0.4881	2.1315	12.8055
17	<i>Aporosa villosa</i>	6.6178	1.6974	0.8957	2.5665	11.7775
18	<i>Glochidion sphaerogynum</i>	6.0132	1.5958	0.7076	2.1852	10.5018
19	<i>Phyllanthus emblica</i>	5.8158	1.4615	0.8547	2.3447	10.4767
20	<i>Craibiodendron stellatum</i>	4.2754	1.1343	0.5080	1.5569	7.4746
21	<i>Temstroemia gymnanthera</i>	4.3332	1.1944	0.4350	1.4627	7.4254
22	<i>Vaccinium sprengelii</i>	3.3023	0.8322	0.4789	1.3236	5.9369
23	<i>Shorea roxburghii</i>	3.1678	0.8516	0.3568	1.1255	5.5016
24	<i>Syzygium cumini</i>	2.8043	0.7462	0.3316	1.0179	4.9000
25	<i>Semecarpus albescens</i>	2.6523	0.7867	0.1968	0.7773	4.4131
26	<i>Ilex umbellulata</i>	2.3890	0.7006	0.1771	0.7077	3.9744
27	<i>Dalbergia assamica</i>	2.2684	0.6393	0.2012	0.7281	3.8370
28	<i>Eriolaena candollei</i>	2.1531	0.6543	0.1366	0.5945	3.5385
29	<i>Glochidion hirsutum</i>	1.8576	0.4478	0.3262	0.8124	3.4439
30	<i>Engelhardtia serrata</i>	1.8423	0.4783	0.2346	0.6963	3.2514
31	<i>Castanopsis diversifolia</i>	1.8930	0.5400	0.1604	0.5943	3.1876
32	<i>Canarium subulatum</i>	1.4789	0.4389	0.1039	0.4278	2.4495
33	<i>Diospyros glandulosa</i>	1.4560	0.4316	0.1028	0.4220	2.4124
34	<i>Pterospermum acerifolium</i>	1.3916	0.4020	0.1132	0.4272	2.3340
35	<i>Gardenia sootepensis</i>	1.2792	0.3386	0.1482	0.4640	2.2300
36	<i>Spondias bipinnata</i>	1.0230	0.2865	0.0933	0.3326	1.7354
37	<i>Stereospermum neuranthum</i>	1.0197	0.2870	0.0915	0.3286	1.7268
38	<i>Syzygium albiflorum</i>	0.5822	0.1596	0.0589	0.1979	0.9986
39	<i>Viburnum sambucinum</i>	0.5772	0.1546	0.0631	0.2042	0.9991
40	<i>Celastrus paniculata</i>	0.5179	0.1320	0.0703	0.2022	0.9225
41	<i>Lithocarpus lindleyanus</i>	0.5097	0.1343	0.0618	0.1878	0.8935
42	<i>Pavetta tomentosa</i>	0.4739	0.1154	0.0793	0.2029	0.8716
43	<i>Eurya nitida</i>	0.4697	0.1297	0.0451	0.1567	0.8012
44	<i>Vitex peduncularis</i>	0.4550	0.1253	0.0441	0.1523	0.7767
45	<i>Dillenia aurea</i>	0.3888	0.1056	0.0406	0.1342	0.6692
46	<i>Quercus semiserrata</i>	0.3754	0.0954	0.0515	0.1473	0.6695
47	<i>Antidesma acidum</i>	0.3081	0.0719	0.0625	0.1439	0.5864
48	<i>Symplocos racemosa</i>	0.2406	0.0637	0.0277	0.0872	0.4192
49	<i>Dolichandrone serrulata</i>	0.2342	0.0619	0.0272	0.0851	0.4084
50	<i>Beilschmiedia gammieana</i>	0.2285	0.0603	0.0267	0.0833	0.3989
51	<i>Ampelocissus martinii</i>	0.2195	0.0577	0.0259	0.0804	0.3836
52	<i>Engelhardtia spicata</i>	0.1553	0.0388	0.0233	0.0632	0.2805
53	<i>Helicia nilagirica</i>	0.1413	0.0362	0.0188	0.0547	0.2510
54	<i>Gluta usitata</i>	0.1190	0.0292	0.0194	0.0503	0.2179
55	<i>Catunaregam tomentosa</i>	0.1161	0.0293	0.0163	0.0460	0.2078
56	<i>Terminalia chebula</i>	0.1110	0.0263	0.0208	0.0501	0.2082
57	<i>Phoebe lanceolata</i>	0.0813	0.0201	0.0126	0.0337	0.1478
58	<i>Vangueria pubescens</i>	0.0635	0.0152	0.0117	0.0283	0.1187
59	<i>Antidesma sp.</i>	0.0434	0.0097	0.0103	0.0219	0.0854
60	<i>Xantolis cambodiana</i>	0.0221	0.0050	0.0049	0.0108	0.0428
61	<i>Smilax ovalifolia</i>	0.0095	0.0020	0.0026	0.0051	0.0192
	Total	432	174	41	287	934

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>23 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	26.8431	48.0768	4.9969	127.3301	207.2470
2	<i>Quercus vestita</i>	116.4179	36.6266	6.8298	30.5365	190.4107
3	<i>Lithocarpus polystachyus</i>	75.3411	23.3438	4.6751	20.3230	123.6830
4	<i>Schima wallichii</i>	27.7682	8.6257	1.6401	7.3830	45.4169
5	<i>Lithocarpus sootepensis</i>	16.8369	5.1399	1.1481	4.7077	27.8326
6	<i>Lithocarpus elegans</i>	12.3256	3.5770	1.0002	3.7685	20.6713
7	<i>Quercus kingiana</i>	11.4900	3.1858	1.1189	3.8288	19.6236
8	<i>Tristania rufescens</i>	9.2764	2.4601	1.1637	3.4305	16.3306
9	<i>Phyllanthus emblica</i>	7.9176	2.1358	0.8975	2.8084	13.7592
10	<i>Castanopsis purpurea</i>	8.0778	2.4122	0.5738	2.3280	13.3919
11	<i>Protium serratum</i>	7.7041	2.3978	0.4461	2.0349	12.5830
12	<i>Stereospermum neuranthum</i>	6.7806	2.2151	0.3149	1.6238	10.9345
13	<i>Dalbergia assamica</i>	6.2943	1.7473	0.6045	2.0879	10.7340
14	<i>Albizia odoratissima</i>	6.4919	2.0672	0.3546	1.6536	10.5673
15	<i>Craibiodendron stellatum</i>	5.2107	1.4098	0.6096	1.8576	9.0877
16	<i>Vaccinium sprengelii</i>	4.5930	1.1783	0.6439	1.7980	8.2133
17	<i>Lithocarpus fenestratus</i>	4.3521	1.2347	0.3850	1.3870	7.3588
18	<i>Styrax benzoides</i>	2.6467	0.7319	0.2558	0.8824	4.5168
19	<i>Aporosa villosa</i>	2.5840	0.6820	0.3161	0.9526	4.5347
20	<i>Dillenia aurea</i>	2.6926	0.8298	0.1608	0.7231	4.4064
21	<i>Anneslea fragrans</i>	1.9064	0.5185	0.2018	0.6598	3.2865
22	<i>Clausena wallichii</i>	1.8316	0.5146	0.1632	0.5902	3.0996
23	<i>Wendlandia tinctoria</i>	1.6471	0.4280	0.2105	0.6224	2.9080
24	<i>Vangueria pubescens</i>	1.4200	0.3729	0.1697	0.5228	2.4854
25	<i>Syzygium cumini</i>	1.0463	0.2876	0.1040	0.3533	1.7911
26	<i>Castanopsis diversifolia</i>	0.9364	0.2612	0.0871	0.3069	1.5916
27	<i>Celastrus paniculata</i>	0.7533	0.2018	0.0834	0.2674	1.3058
28	<i>Gluta obovata</i>	0.6309	0.1574	0.0964	0.2584	1.1430
29	<i>Glochidion sphaerogynum</i>	0.5752	0.1433	0.0882	0.2361	1.0428
30	<i>Ziziphus oenoplia</i>	0.3576	0.0970	0.0370	0.1234	0.6150
31	<i>Glochidion hirsutum</i>	0.2650	0.0653	0.0428	0.1113	0.4843
32	<i>Symplocos racemosa</i>	0.2366	0.0611	0.0320	0.0911	0.4208
33	<i>Dalbergia foliacea</i>	0.2285	0.0603	0.0267	0.0833	0.3989
34	<i>Gluta usitata</i>	0.2096	0.0515	0.0341	0.0884	0.3836
35	<i>Dalbergia cultrata</i>	0.2037	0.0513	0.0292	0.0814	0.3655
36	<i>Flacourtia indica</i>	0.1869	0.0487	0.0231	0.0699	0.3286
37	<i>Cratoxylum sumatranum</i>	0.1788	0.0464	0.0223	0.0672	0.3148
38	<i>Colona flagrocarpa</i>	0.1531	0.0357	0.0305	0.0711	0.2905
39	<i>Ternstroemia gymnanthera</i>	0.1599	0.0412	0.0206	0.0610	0.2828
40	<i>Lithocarpus lindleyanus</i>	0.1373	0.0351	0.0184	0.0533	0.2441
41	<i>Antidesma acidum</i>	0.0870	0.0207	0.0164	0.0392	0.1633
42	<i>Dolichandrone serrulata</i>	0.0703	0.0165	0.0136	0.0323	0.1327
43	<i>Symplocos henschelii</i>	0.0601	0.0146	0.0101	0.0259	0.1107
44	<i>Semecarpus anacardium</i>	0.0510	0.0122	0.0090	0.0224	0.0945
45	<i>Cratoxylum formosum</i>	0.0500	0.0120	0.0088	0.0220	0.0929
46	<i>Terminalia chebula</i>	0.0365	0.0085	0.0076	0.0172	0.0698
47	<i>Catunaregam tomentosa</i>	0.0234	0.0053	0.0051	0.0113	0.0451
48	<i>Engelhardtia spicata</i>	0.0041	0.0008	0.0014	0.0024	0.0088
49	<i>Turpinia pomifera</i>	0.0036	0.0007	0.0013	0.0022	0.0078
50	<i>Syzygium albiflorum</i>	0.0036	0.0007	0.0013	0.0022	0.0078
	Total	375	154	30	226	785

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>24 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	33.0755	57.1122	6.1612	158.2058	254.5547
2	<i>Castanopsis diversifolia</i>	207.8197	74.9979	6.6253	41.4280	330.8709
3	<i>Schima wallichii</i>	69.8974	23.4678	3.1209	16.1647	112.6508
4	<i>Elaeocarpus sphaericus</i>	50.0610	16.8454	2.1718	11.4716	80.5498
5	<i>Sarcosperma arboreum</i>	34.1969	11.6643	1.3368	7.5491	54.7471
6	<i>Syzygium cumini</i>	33.7956	12.2183	1.0140	6.6312	53.6592
7	<i>Helicia terminalis</i>	18.1278	5.2316	1.4731	5.5732	30.4057
8	<i>Erythrina subumbrans</i>	15.2427	4.9314	0.7493	3.7339	24.6572
9	<i>Glochidion sphaerogynum</i>	13.1205	4.0635	0.7832	3.5076	21.4748
10	<i>Temstroemia gymnanthera</i>	8.9242	2.7522	0.5364	2.3984	14.6112
11	<i>Betula alnoides</i>	8.7747	2.9135	0.3800	2.0352	14.1034
12	<i>Engelhardtia serrata</i>	7.1900	2.2736	0.3879	1.8400	11.6915
13	<i>Styrax benzoides</i>	5.9051	1.7310	0.4555	1.7670	9.8586
14	<i>Magnolia henryi</i>	5.1590	1.6565	0.2581	1.2781	8.3517
15	<i>Engelhardtia spicata</i>	5.0743	1.6276	0.2550	1.2597	8.2166
16	<i>Dalbergia assamica</i>	2.9713	0.8876	0.2046	0.8501	4.9135
17	<i>Eurya nitida</i>	2.2924	0.6517	0.2239	0.7440	3.9120
18	<i>Dalbergia foliacea</i>	1.2311	0.3370	0.1226	0.4175	2.1082
19	<i>Phyllanthus emblica</i>	1.0180	0.2823	0.0998	0.3396	1.7397
20	<i>Callicarpa arborea</i>	0.9131	0.2628	0.0732	0.2804	1.5295
21	<i>Gmelina arborea</i>	0.4283	0.1175	0.0422	0.1445	0.7324
22	<i>Dolichandrone serrulata</i>	0.3622	0.0983	0.0373	0.1247	0.6226
23	<i>Gluta obovata</i>	0.3554	0.0923	0.0444	0.1337	0.6258
24	<i>Helicia nilagirica</i>	0.2862	0.0766	0.0314	0.1015	0.4958
25	<i>Stereospermum neuranthum</i>	0.2484	0.0659	0.0284	0.0897	0.4323
26	<i>Anneslea fragrans</i>	0.2374	0.0628	0.0274	0.0862	0.4137
27	<i>Wendlandia tinctoria</i>	0.2250	0.0550	0.0370	0.0957	0.4127
28	<i>Syzygium albiflorum</i>	0.2123	0.0537	0.0300	0.0843	0.3804
29	<i>Phoebe paniculata</i>	0.2027	0.0497	0.0342	0.0864	0.3730
30	<i>Holarrhena pubescens</i>	0.1419	0.0363	0.0189	0.0549	0.2520
31	<i>Diospyros glandulosa</i>	0.0865	0.0214	0.0132	0.0356	0.1566
32	<i>Turpinia pomifera</i>	0.0712	0.0175	0.0114	0.0300	0.1301
33	<i>Archidendron clypearia</i>	0.0500	0.0106	0.0153	0.0282	0.1041
34	<i>Pavetta tomentosa</i>	0.0239	0.0051	0.0068	0.0130	0.0489
35	<i>Symplocos sp.</i>	0.0096	0.0021	0.0027	0.0052	0.0196
36	<i>Melastoma sanguineum</i>	0.0067	0.0013	0.0029	0.0044	0.0153
37	<i>Rhus javanica</i>	0.0054	0.0011	0.0021	0.0034	0.0120
38	<i>Morinda tomentosa</i>	0.0045	0.0009	0.0021	0.0031	0.0106
39	<i>Pittosporum nepaulense</i>	0.0044	0.0009	0.0015	0.0026	0.0094
40	<i>Albizia odoratissima</i>	0.0041	0.0008	0.0017	0.0027	0.0093
41	<i>Olea salicifolia</i>	0.0036	0.0007	0.0013	0.0022	0.0078
42	<i>Canarium subulatum</i>	0.0029	0.0006	0.0011	0.0018	0.0065
43	<i>Vernonia volkameriifolia</i>	0.0024	0.0005	0.0010	0.0015	0.0053
44	<i>Acacia megaladena</i>	0.0023	0.0004	0.0009	0.0015	0.0051
45	<i>Lindera metcalfiana</i>	0.0013	0.0003	0.0006	0.0009	0.0031
46	<i>Litsea cubeba</i>	0.0007	0.0001	0.0004	0.0005	0.0017
	Total	528	227	27	269	1,050

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>25 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	43.1086	75.6702	8.0273	205.2426	332.0486
2	<i>Schima wallichii</i>	73.7965	23.3293	4.1877	19.1328	120.4464
3	<i>Castanopsis diversifolia</i>	42.3084	13.5602	2.2620	10.6695	68.8000
4	<i>Syzygium albiflorum</i>	39.9133	14.4052	1.2789	7.9471	63.5446
5	<i>Castanopsis purpurea</i>	27.1773	9.5957	0.9232	5.6135	43.3097
6	<i>Anneslea fragrans</i>	20.3584	6.2757	1.2973	5.5515	33.4830
7	<i>Castanopsis acuminatissima</i>	18.2935	5.8333	0.9439	4.5953	29.6659
8	<i>Wendlandia tinctoria</i>	10.9085	2.8623	1.3251	4.0355	19.1314
9	<i>Helicia nilagirica</i>	7.5606	2.1504	0.6646	2.4019	12.7775
10	<i>Ternstroemia gymnanthera</i>	6.9734	2.0322	0.5443	2.1036	11.6534
11	<i>Glochidion sphaerogynum</i>	6.8246	2.0277	0.4884	1.9803	11.3210
12	<i>Styrax benzoides</i>	5.4634	1.5128	0.5301	1.8217	9.3280
13	<i>Betula alnoides</i>	4.5689	1.4559	0.2363	1.1491	7.4102
14	<i>Gluta obovata</i>	3.9467	1.0662	0.4281	1.3831	6.8240
15	<i>Ficus ribes</i>	3.6586	1.0606	0.2916	1.1149	6.1257
16	<i>Engelhardtia serrata</i>	3.4878	1.0309	0.2521	1.0194	5.7903
17	<i>Lithocarpus sootepensis</i>	3.0155	0.8687	0.2483	0.9311	5.0636
18	<i>Diospyros glandulosa</i>	2.7327	0.7925	0.2142	0.8291	4.5685
19	<i>Callicarpa arborea</i>	2.5467	0.7821	0.1544	0.6887	4.1719
20	<i>Engelhardtia spicata</i>	1.8910	0.5224	0.1866	0.6344	3.2343
21	<i>Tristania rufescens</i>	1.8187	0.4870	0.2022	0.6462	3.1542
22	<i>Dalbergia foliacea</i>	1.1787	0.3148	0.1316	0.4202	2.0453
23	<i>Dalbergia assamica</i>	1.0716	0.2991	0.0985	0.3500	1.8191
24	<i>Dillenia aurea</i>	0.8931	0.2567	0.0720	0.2750	1.4969
25	<i>Phyllanthus emblica</i>	0.7054	0.1813	0.0929	0.2712	1.2508
26	<i>Magnolia henryi</i>	0.6848	0.1936	0.0593	0.2180	1.1557
27	<i>Phoebe paniculata</i>	0.6253	0.1713	0.0633	0.2127	1.0725
28	<i>Phoebe cathia</i>	0.5613	0.1567	0.0513	0.1831	0.9525
29	<i>Eurya nitida</i>	0.4572	0.1260	0.0442	0.1530	0.7805
30	<i>Gluta usitata</i>	0.4138	0.1081	0.0518	0.1548	0.7285
31	<i>Symplocos sp.</i>	0.2374	0.0628	0.0274	0.0862	0.4137
32	<i>Dolichandrone serrulata</i>	0.0946	0.0236	0.0140	0.0385	0.1707
33	<i>Elaeocarpus sphaericus</i>	0.0740	0.0180	0.0126	0.0319	0.1365
34	<i>Aporosa villosa</i>	0.0641	0.0156	0.0106	0.0274	0.1177
35	<i>Olea salicifolia</i>	0.0153	0.0034	0.0037	0.0078	0.0302
36	<i>Acacia megaladena</i>	0.0040	0.0008	0.0017	0.0026	0.0091
37	<i>Archidendron clypearia</i>	0.0029	0.0006	0.0011	0.0018	0.0065
38	<i>Albizia odoratissima</i>	0.0024	0.0005	0.0010	0.0015	0.0053
39	<i>Pavetta tomentosa</i>	0.0018	0.0003	0.0008	0.0012	0.0041
	Total	337	169	25	282	814

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>26 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	69.3144	137.7142	12.8689	316.5041	536.4017
2	<i>Schima wallichii</i>	164.2487	53.9807	7.9571	39.5352	265.7216
3	<i>Quercus semiserrata</i>	65.0984	24.5295	1.6342	11.7757	103.0378
4	<i>Castanopsis diversifolia</i>	63.9767	22.1760	2.4719	13.8553	102.4799
5	<i>Helicia nilagirica</i>	41.6161	14.3283	1.5555	9.0092	66.5091
6	<i>Syzygium albiflorum</i>	24.5759	8.5500	0.9207	5.2627	39.3093
7	<i>Ternstroemia gymnanthera</i>	22.7320	7.4749	1.0924	5.4466	36.7460
8	<i>Stereospermum neuranthum</i>	21.9718	7.7306	0.7412	4.5477	34.9913
9	<i>Syzygium cumini</i>	15.6031	5.3725	0.5777	3.3696	24.9230
10	<i>Castanopsis purpurea</i>	13.0732	4.4514	0.5079	2.8859	20.9185
11	<i>Dillenia aurea</i>	11.3786	3.8406	0.4591	2.5555	18.2337
12	<i>Phoebe paniculata</i>	10.8225	3.4360	0.5751	2.7490	17.5826
13	<i>Elaeocarpus sphaericus</i>	5.5121	1.6633	0.3618	1.5443	9.0815
14	<i>Engelhardtia spicata</i>	5.4100	1.6087	0.3835	1.5650	8.9672
15	<i>Toona ciliata</i>	4.9619	1.5893	0.2509	1.2352	8.0374
16	<i>Helicia terminalis</i>	3.9278	1.1243	0.3313	1.2275	6.6109
17	<i>Dalbergia assamica</i>	3.6723	1.0514	0.3149	1.1515	6.1901
18	<i>Lithocarpus elegans</i>	3.2330	0.9097	0.2930	1.0446	5.4803
19	<i>Castanopsis acuminatissima</i>	3.0027	0.9029	0.2022	0.8492	4.9571
20	<i>Quercus vestita</i>	1.5209	0.4311	0.1386	0.4883	2.5789
21	<i>Wendlandia tinctoria</i>	1.3179	0.3562	0.1388	0.4583	2.2711
22	<i>Myrica esculenta</i>	1.1570	0.3381	0.0869	0.3450	1.9270
23	<i>Albizia chinensis</i>	0.9774	0.2826	0.0769	0.2976	1.6345
24	<i>Glochidion sphaerogynum</i>	0.8588	0.2250	0.1047	0.3184	1.5070
25	<i>Styrax benzoides</i>	0.7109	0.2014	0.0610	0.2252	1.1986
26	<i>Vaccinium sprengelii</i>	0.5231	0.1380	0.0623	0.1916	0.9151
27	<i>Magnolia elegans</i>	0.1454	0.0368	0.0208	0.0578	0.2607
28	<i>Eurya nitida</i>	0.1234	0.0307	0.0190	0.0507	0.2238
29	<i>Terminalia chebula</i>	0.0715	0.0175	0.0115	0.0301	0.1305
30	<i>Aporosa villosa</i>	0.0139	0.0031	0.0035	0.0072	0.0276
31	<i>Acacia megaladena</i>	0.0016	0.0003	0.0007	0.0011	0.0037
	Total	562	304	34	429	1,329

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				Total
		Stem	Branch	Leaf	Root	
	27 year-old pine plantation					
1	<i>Pinus kesiya</i>	42.4666	81.0035	7.8921	196.6036	327.9659
2	<i>Schima wallichii</i>	259.9078	81.6959	14.6559	67.5969	423.8566
3	<i>Castanopsis diversifolia</i>	27.3055	8.5106	1.5960	7.2173	44.6294
4	<i>Glochidion sphaerogynum</i>	25.7432	7.6994	1.8283	7.4111	42.6820
5	<i>Phoebe paniculata</i>	24.3658	7.5575	1.4957	6.5344	39.9535
6	<i>Elaeocarpus sphaericus</i>	22.3557	6.9418	1.3126	5.9358	36.5458
7	<i>Dalbergia velutina</i>	17.4577	4.7750	1.7773	5.9541	29.9641
8	<i>Betula alnoides</i>	16.8486	5.5812	0.7373	3.9264	27.0935
9	<i>Buchanania lanzan</i>	15.6313	5.1643	0.7021	3.6725	25.1703
10	<i>Castanopsis purpurea</i>	14.3984	4.5464	0.7807	3.6938	23.4194
11	<i>Wendlandia tinctoria</i>	10.7644	3.0899	0.9069	3.3516	18.1128
12	<i>Lithocarpus elegans</i>	7.0369	1.9949	0.6214	2.2422	11.8954
13	<i>Syzygium albiflorum</i>	5.8111	1.7517	0.4062	1.6524	9.6215
14	<i>Styrax benzoides</i>	3.7203	1.1095	0.2822	1.0874	6.1994
15	<i>Albizia odoratissima</i>	3.7160	1.1648	0.2113	0.9694	6.0616
16	<i>Eurya nitida</i>	3.2620	0.9740	0.2469	0.9507	5.4336
17	<i>Helicia terminalis</i>	2.9577	0.8373	0.2670	0.9494	5.0113
18	<i>Quercus brandisiana</i>	2.8536	0.8827	0.1677	0.7608	4.6649
19	<i>Symplocos racemosa</i>	2.6159	0.7536	0.2117	0.8044	4.3856
20	<i>Castanopsis acuminatissima</i>	2.4706	0.7573	0.1510	0.6706	4.0494
21	<i>Cleidion spiciflorum</i>	1.9595	0.5668	0.1539	0.5961	3.2762
22	<i>Symplocos sp.</i>	1.5913	0.4518	0.1395	0.5048	2.6874
23	<i>Lithocarpus fenestratus</i>	1.2707	0.3505	0.1233	0.4252	2.1697
24	<i>Colona flagrocarpa</i>	1.0548	0.3064	0.0813	0.3182	1.7607
25	<i>Memecylon edule</i>	0.8901	0.2405	0.0949	0.3106	1.5361
26	<i>Syzygium cumini</i>	0.8503	0.2434	0.0704	0.2643	1.4285
27	<i>Mallotus paniculatus</i>	0.6723	0.1401	0.2213	0.3916	1.4253
28	<i>Markhamia pierrei</i>	0.7277	0.2059	0.0641	0.2319	1.2296
29	<i>Engelhardtia spicata</i>	0.5879	0.1582	0.0633	0.2063	1.0157
30	<i>Lithocarpus garrettianus</i>	0.4669	0.1280	0.0472	0.1585	0.8006
31	<i>Semecarpus albescens</i>	0.4359	0.1198	0.0427	0.1467	0.7451
32	<i>Helicia nilagirica</i>	0.4133	0.1090	0.0487	0.1511	0.7221
33	<i>Neolitsea zeylanica</i>	0.2585	0.0543	0.0840	0.1491	0.5459
34	<i>Myrica esculenta</i>	0.2707	0.0692	0.0382	0.1062	0.4843
35	<i>Anneslea fragrans</i>	0.2514	0.0665	0.0295	0.0915	0.4388
36	<i>Phoebe lanceolata</i>	0.0871	0.0196	0.0232	0.0449	0.1748
37	<i>Catunaregam tomentosa</i>	0.0628	0.0122	0.0279	0.0419	0.1448
38	<i>Phyllanthus emblica</i>	0.0588	0.0134	0.0139	0.0292	0.1153
39	<i>Archidendron clypearia</i>	0.0437	0.0090	0.0152	0.0260	0.0940
40	<i>Artocarpus sp.</i>	0.0412	0.0091	0.0109	0.0217	0.0829
41	<i>Blumea balsamifera</i>	0.0231	0.0047	0.0085	0.0142	0.0506
42	<i>Memecylon celastrinum</i>	0.0224	0.0045	0.0085	0.0139	0.0493
43	<i>Cinnamomum iners</i>	0.0223	0.0045	0.0083	0.0137	0.0489
44	<i>Litsea cubeba</i>	0.0213	0.0044	0.0070	0.0124	0.0451
45	<i>Mussaenda sanderiana</i>	0.0183	0.0035	0.0085	0.0125	0.0429
46	<i>Turpintia cochinchinensis</i>	0.0167	0.0036	0.0047	0.0091	0.0341
47	<i>Vernonia volkameriifolia</i>	0.0139	0.0029	0.0046	0.0081	0.0295
48	<i>Diospyros glandulosa</i>	0.0123	0.0024	0.0050	0.0079	0.0277
49	<i>Euodia roxburghiana</i>	0.0115	0.0021	0.0061	0.0084	0.0282
50	<i>Melastoma sanguineum</i>	0.0103	0.0020	0.0040	0.0065	0.0228
51	<i>Milletia pachycarpa</i>	0.0098	0.0019	0.0046	0.0067	0.0230
52	<i>Ternstroemia gymnanthera</i>	0.0085	0.0018	0.0024	0.0047	0.0174
53	<i>Rhus javanica</i>	0.0072	0.0014	0.0030	0.0046	0.0162
54	<i>Glochidion arborescens</i>	0.0069	0.0014	0.0025	0.0042	0.0150
55	<i>Albizia chinensis</i>	0.0064	0.0012	0.0028	0.0043	0.0147
56	<i>Lindera metcalftiana</i>	0.0055	0.0011	0.0024	0.0036	0.0126
57	<i>Canthium sp.</i>	0.0050	0.0010	0.0017	0.0029	0.0106
58	<i>Kydia calycina</i>	0.0050	0.0010	0.0017	0.0029	0.0106
59	<i>Engelhardtia serrata</i>	0.0044	0.0009	0.0015	0.0026	0.0094
60	<i>Acacia megaladena</i>	0.0035	0.0007	0.0017	0.0024	0.0082
61	<i>Magnolia henryi</i>	0.0036	0.0007	0.0013	0.0022	0.0078
62	<i>Artocarpus lacucha</i>	0.0036	0.0007	0.0013	0.0022	0.0078
63	<i>Viburnum sambucinum</i>	0.0036	0.0007	0.0013	0.0022	0.0078
64	<i>Acacia pennata</i>	0.0031	0.0006	0.0017	0.0023	0.0077
65	<i>Syzygium sp.</i>	0.0028	0.0005	0.0013	0.0019	0.0066
66	<i>Antidesma acidum</i>	0.0029	0.0006	0.0011	0.0018	0.0064
67	<i>Craibiodendron stellatum</i>	0.0024	0.0005	0.0010	0.0015	0.0053
68	<i>Antiaris toxicaria</i>	0.0014	0.0003	0.0007	0.0010	0.0033
69	<i>Gluta obovata</i>	0.0013	0.0003	0.0006	0.0009	0.0031
70	<i>Ficus callosa</i>	0.0009	0.0002	0.0005	0.0006	0.0021
	Total	524	230	38	326	1,118

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>28 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	48.3929	101.2398	8.9737	217.2306	375.8370
2	<i>Schima wallichii</i>	111.1031	35.8725	5.5102	27.3246	179.8105
3	<i>Engelhardtia spicata</i>	13.0928	4.0215	0.8262	3.5738	21.5143
4	<i>Glochidion sphaerogynum</i>	11.6778	3.5410	0.7829	3.2733	19.2750
5	<i>Markhamia stipulata</i>	6.4704	1.9109	0.4666	1.8919	10.7398
6	<i>Castanopsis diversifolia</i>	6.2148	1.8938	0.4084	1.7250	10.2420
7	<i>Entada rheedii</i>	5.4216	1.7463	0.2676	1.3349	8.7704
8	<i>Colona flagrocarpa</i>	4.1813	1.3243	0.2228	1.0648	6.7933
9	<i>Stereospermum neuranthum</i>	2.7222	0.8104	0.1925	0.7860	4.5111
10	<i>Castanopsis purpurea</i>	2.6841	0.8270	0.1604	0.7211	4.3926
11	<i>Erythrina subumbrans</i>	1.0128	0.2786	0.1013	0.3419	1.7346
12	<i>Gmelina arborea</i>	0.9237	0.2475	0.1056	0.3301	1.6068
13	<i>Dalbergia foliacea</i>	0.7159	0.1888	0.0854	0.2625	1.2527
14	<i>Vaccinium sprengelii</i>	0.7257	0.2059	0.0619	0.2293	1.2228
15	<i>Dalbergia assamica</i>	0.5753	0.1546	0.0636	0.2035	0.9969
16	<i>Phyllanthus emblica</i>	0.4381	0.1142	0.0553	0.1644	0.7720
17	<i>Albizia odoratissima</i>	0.4283	0.1173	0.0430	0.1453	0.7339
18	<i>Syzygium albiflorum</i>	0.4003	0.1081	0.0437	0.1404	0.6926
19	<i>Litsea cubeba</i>	0.2812	0.0621	0.0724	0.1464	0.5621
20	<i>Ficus ribes</i>	0.2670	0.0659	0.0442	0.1127	0.4898
21	<i>Diospyros glandulosa</i>	0.1157	0.0262	0.0269	0.0573	0.2262
22	<i>Musa acuminata</i>	0.0726	0.0178	0.0116	0.0305	0.1325
23	<i>Archidendron clypearia</i>	0.0623	0.0146	0.0127	0.0290	0.1185
24	<i>Phoebe paniculata</i>	0.0472	0.0100	0.0141	0.0263	0.0976
25	<i>Wendlandia tinctoria</i>	0.0336	0.0071	0.0103	0.0189	0.0699
26	<i>Vernonia volkamerifolia</i>	0.0331	0.0071	0.0094	0.0180	0.0676
27	<i>Horsfieldia tomentosa</i>	0.0221	0.0050	0.0049	0.0108	0.0428
28	<i>Rhus javanica</i>	0.0193	0.0042	0.0053	0.0104	0.0392
29	<i>Phoebe lanceolata</i>	0.0128	0.0027	0.0039	0.0073	0.0267
30	<i>Acacia megaladena</i>	0.0052	0.0011	0.0017	0.0030	0.0110
31	<i>Eriolaena candollei</i>	0.0050	0.0010	0.0017	0.0029	0.0106
32	<i>Melastoma sanguineum</i>	0.0047	0.0009	0.0019	0.0031	0.0107
33	<i>Litsea monopetala</i>	0.0036	0.0007	0.0013	0.0022	0.0078
34	<i>Syzygium cumini</i>	0.0036	0.0007	0.0013	0.0022	0.0078
35	<i>Aporosa villosa</i>	0.0036	0.0007	0.0013	0.0022	0.0078
	Total	218	155	19	261	653

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>29 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	27.0309	49.2003	5.0292	127.1823	208.4427
2	<i>Castanopsis purpurea</i>	56.1754	17.9123	3.1869	14.4552	91.7298
3	<i>Schima wallichii</i>	47.7388	15.4339	2.4215	11.7808	77.3750
4	<i>Helicia terminalis</i>	33.3617	10.0574	2.2525	9.4199	55.0916
5	<i>Anneslea fragrans</i>	20.8535	7.1206	0.8153	4.5985	33.3879
6	<i>Quercus vestita</i>	9.5504	2.9641	0.5626	2.5399	15.6170
7	<i>Castanopsis diversifolia</i>	8.3532	2.7153	0.4226	2.0468	13.5379
8	<i>Helicia nilagirica</i>	7.3904	2.3003	0.4470	1.9717	12.1095
9	<i>Toona ciliata</i>	6.0083	1.8667	0.3481	1.5896	9.8127
10	<i>Myrica esculenta</i>	5.4168	1.5858	0.4158	1.6202	9.0386
11	<i>Engelhardtia spicata</i>	4.5397	1.4129	0.2700	1.2062	7.4289
12	<i>Wendlandia tinctoria</i>	3.0668	0.7800	0.4243	1.2050	5.4761
13	<i>Eriolaena candollei</i>	3.0402	0.9187	0.2011	0.8522	5.0122
14	<i>Erythrina subumbrans</i>	2.9513	0.9148	0.1719	0.7836	4.8215
15	<i>Cycas pectinata</i>	1.8060	0.5065	0.1620	0.5838	3.0584
16	<i>Acacia megaladena</i>	1.1458	0.3254	0.0991	0.3630	1.9333
17	<i>Camellia pleurocarpa</i>	0.9318	0.2633	0.0827	0.2984	1.5763
18	<i>Phyllanthus emblica</i>	0.8836	0.2404	0.0941	0.3062	1.5243
19	<i>Ternstroemia gymnanthera</i>	0.8195	0.2343	0.0676	0.2551	1.3764
20	<i>Tadehagi triquetrum</i>	0.5706	0.1566	0.0575	0.1935	0.9782
21	<i>Lithocarpus elegans</i>	0.3835	0.1045	0.0389	0.1311	0.6580
22	<i>Dalbergia foliacea</i>	0.3126	0.0841	0.0335	0.1097	0.5399
23	<i>Morinda tomentosa</i>	0.2375	0.0628	0.0275	0.0862	0.4140
24	<i>Pterospermum acerifolium</i>	0.2101	0.0551	0.0251	0.0774	0.3678
25	<i>Glochidion sphaerogynum</i>	0.1484	0.0381	0.0195	0.0571	0.2631
26	<i>Blunea balsamifera</i>	0.1101	0.0249	0.0254	0.0545	0.2149
27	<i>Glochidion hirsutum</i>	0.1061	0.0267	0.0153	0.0426	0.1906
28	<i>Catunaregam tomentosa</i>	0.0648	0.0152	0.0127	0.0299	0.1225
29	<i>Antidesma acidum</i>	0.0639	0.0156	0.0106	0.0273	0.1173
30	<i>Melastoma sanguineum</i>	0.0329	0.0069	0.0103	0.0187	0.0689
31	<i>Litsea cubeba</i>	0.0052	0.0011	0.0017	0.0030	0.0110
32	<i>Syzygium cumini</i>	0.0019	0.0004	0.0008	0.0012	0.0043
	Total	243	117	18	184	562

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>30 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	47.9366	98.3664	8.8935	216.7034	371.8999
2	<i>Castanopsis diversifolia</i>	123.3418	45.3953	3.8298	23.9685	196.5355
3	<i>Schima wallichii</i>	115.6930	35.7613	6.9937	31.0741	189.5221
4	<i>Castanopsis purpurea</i>	38.0419	12.2926	1.8674	9.3261	61.5280
5	<i>Dalbergia assamica</i>	29.1822	9.1298	1.7143	7.6956	47.7218
6	<i>Engelhardtia spicata</i>	25.8866	7.9848	1.5975	7.0013	42.4702
7	<i>Lithocarpus elegans</i>	21.3451	6.3446	1.5150	6.1801	35.3848
8	<i>Canarium subulatum</i>	4.3213	1.3721	0.2269	1.0944	7.0147
9	<i>Dolichandrone serrulata</i>	3.9146	1.1838	0.2586	1.0960	6.4530
10	<i>Myrica esculenta</i>	3.8933	1.1770	0.2530	1.0863	6.4095
11	<i>Sapindus rarak</i>	3.0909	0.9609	0.1778	0.8160	5.0455
12	<i>Albizia odoratissima</i>	2.5122	0.7452	0.1836	0.7337	4.1747
13	<i>Symplocos sp.</i>	2.3109	0.7053	0.1439	0.6325	3.7926
14	<i>Garuga pinnata</i>	2.1873	0.6653	0.1382	0.6027	3.5936
15	<i>Elaeocarpus sphaericus</i>	1.7137	0.4965	0.1352	0.5212	2.8666
16	<i>Wendlandia tinctoria</i>	1.2220	0.3249	0.1401	0.4404	2.1274
17	<i>Gluta obovata</i>	1.1513	0.3160	0.1142	0.3890	1.9706
18	<i>Blumea balsamifera</i>	1.0892	0.3170	0.0832	0.3272	1.8166
19	<i>Markhamia stipulata</i>	1.0425	0.2941	0.0936	0.3351	1.7654
20	<i>Colona flagrocarpa</i>	0.7548	0.2063	0.0760	0.2570	1.2941
21	<i>Gluta usitata</i>	0.6918	0.1863	0.0747	0.2428	1.1956
22	<i>Engelhardtia serrata</i>	0.4701	0.1298	0.0451	0.1568	0.8018
23	<i>Gmelina arborea</i>	0.3996	0.1073	0.0442	0.1415	0.6926
24	<i>Aporosa villosa</i>	0.3236	0.0872	0.0344	0.1130	0.5582
25	<i>Magnolia henryi</i>	0.3042	0.0790	0.0385	0.1148	0.5364
26	<i>Castanopsis acuminatissima</i>	0.1891	0.0493	0.0233	0.0706	0.3323
27	<i>Vaccinium sprengelii</i>	0.1755	0.0455	0.0220	0.0661	0.3091
28	<i>Erythrina subumbrans</i>	0.1723	0.0446	0.0217	0.0651	0.3037
29	<i>Acacia megaladena</i>	0.1575	0.0406	0.0204	0.0601	0.2785
30	<i>Symplocos racemosa</i>	0.0972	0.0234	0.0169	0.0424	0.1799
31	<i>Phyllanthus emblica</i>	0.0870	0.0204	0.0172	0.0402	0.1648
32	<i>Syzygium albiflorum</i>	0.0740	0.0180	0.0126	0.0319	0.1365
33	<i>Morinda tomentosa</i>	0.0237	0.0054	0.0051	0.0115	0.0458
34	<i>Phoebe paniculata</i>	0.0153	0.0034	0.0037	0.0078	0.0302
35	<i>Camellia pleurocarpa</i>	0.0085	0.0018	0.0024	0.0047	0.0174
36	<i>Lithocarpus sootepensis</i>	0.0036	0.0007	0.0013	0.0022	0.0078
	Total	434	225	29	311	999

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	31 year-old pine plantation					
1	<i>Pinus kesiya</i>	27.6957	58.1662	5.1355	124.2560	215.2534
2	<i>Castanopsis diversifolia</i>	221.1822	73.3484	10.2544	52.2470	357.0320
3	<i>Schima wallichii</i>	171.4741	55.4441	8.8285	42.4981	278.2449
4	<i>Castanopsis acuminatissima</i>	74.4040	24.7505	3.2716	17.2908	119.7169
5	<i>Syzygium albiflorum</i>	43.6280	15.7445	1.4266	8.7260	69.5253
6	<i>Wendlandia tinctoria</i>	38.9736	10.8420	3.7147	12.8864	66.4167
7	<i>Myrica esculenta</i>	17.4407	5.3835	1.0535	4.6904	28.5680
8	<i>Olea salicifolia</i>	17.1536	5.6877	0.7473	3.9896	27.5782
9	<i>Syzygium cumini</i>	17.1752	5.9297	0.6408	3.7028	27.4484
10	<i>Helicia terminalis</i>	16.0605	4.7889	1.1432	4.6403	26.6329
11	<i>Elaeocarpus sphaericus</i>	9.6385	2.9115	0.6508	2.7165	15.9172
12	<i>Ternstroemia gymnanthera</i>	9.1625	2.8882	0.5219	2.3819	14.9544
13	<i>Dalbergia cultrata</i>	8.4715	2.6869	0.4470	2.1502	13.7556
14	<i>Canarium subulatum</i>	7.6257	2.4025	0.4141	1.9611	12.4034
15	<i>Docynia indica</i>	4.5374	1.3590	0.3096	1.2922	7.4981
16	<i>Symplocos sp.</i>	3.7854	1.0997	0.2943	1.1443	6.3237
17	<i>Phoebe paniculata</i>	3.7349	1.1233	0.2505	1.0544	6.1632
18	<i>Anneslea fragrans</i>	3.6198	1.0337	0.3029	1.1318	6.0881
19	<i>Phyllanthus emblica</i>	2.6414	0.7155	0.2793	0.9176	4.5538
20	<i>Rapanea porteriiana</i>	2.1058	0.5771	0.2113	0.7146	3.6087
21	<i>Eurya nitida</i>	1.8991	0.5529	0.1465	0.5719	3.1705
22	<i>Gluta obovata</i>	1.8178	0.5242	0.1518	0.5628	3.0566
23	<i>Engelhardtia spicata</i>	1.2343	0.3345	0.1319	0.4298	2.1305
24	<i>Diospyros glandulosa</i>	1.0366	0.2931	0.0915	0.3313	1.7524
25	<i>Helicia nilagirica</i>	1.0070	0.2833	0.0920	0.3259	1.7082
26	<i>Gochmatia decora</i>	0.9457	0.2728	0.0751	0.2892	1.5827
27	<i>Styrax benzoides</i>	0.6848	0.1936	0.0593	0.2180	1.1557
28	<i>Albizia odoratissima</i>	0.6683	0.1886	0.0583	0.2134	1.1286
29	<i>Betula alnoides</i>	0.6512	0.1835	0.0572	0.2086	1.1005
30	<i>Glochidion sphaerogynum</i>	0.4934	0.1366	0.0467	0.1636	0.8404
31	<i>Memecylon celastrinum</i>	0.4675	0.1208	0.0620	0.1792	0.8295
32	<i>Lithocarpus thomsonii</i>	0.3835	0.1045	0.0389	0.1311	0.6580
33	<i>Ardisia attenuata</i>	0.3186	0.0858	0.0340	0.1115	0.5499
34	<i>Turpinia pomifera</i>	0.1867	0.0486	0.0230	0.0698	0.3282
35	<i>Eriolaena candollei</i>	0.0420	0.0099	0.0078	0.0189	0.0786
36	<i>Ficus tinctoria</i>	0.0301	0.0070	0.0061	0.0141	0.0572
37	<i>Ficus maclellandii</i>	0.0043	0.0009	0.0015	0.0025	0.0092
38	<i>Acacia megaladena</i>	0.0036	0.0007	0.0013	0.0022	0.0078
39	<i>Erythrina subumbrans</i>	0.0012	0.0002	0.0006	0.0008	0.0029
	Total	712	280	41	294	1,328

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>32 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	54.4071	109.0794	10.0988	247.5410	421.1263
2	<i>Schima wallichii</i>	203.9051	67.9845	9.0330	47.3678	328.2903
3	<i>Syzygium cumini</i>	77.5622	29.5509	1.8565	13.7287	122.6983
4	<i>Castanopsis acuminatissima</i>	57.7090	18.9722	2.6167	13.6604	92.9582
5	<i>Phoebe paniculata</i>	22.8979	7.9121	0.8575	4.9402	36.6077
6	<i>Xanthophyllum virens</i>	16.7985	5.4680	0.8199	4.0858	27.1723
7	<i>Elaeocarpus sphaericus</i>	13.4515	4.1458	0.8132	3.6231	22.0336
8	<i>Magnolia henryi</i>	13.0970	4.4213	0.5394	2.9540	21.0117
9	<i>Castanopsis tribuloides</i>	10.6523	3.4281	0.5280	2.6275	17.2359
10	<i>Knema erratica</i>	9.3048	3.1010	0.3965	2.1425	14.9449
11	<i>Betula alnoides</i>	7.7852	2.5655	0.3483	1.8327	12.5317
12	<i>Albizia chinensis</i>	6.3926	2.0806	0.3017	1.5421	10.3170
13	<i>Engelhardtia spicata</i>	4.7876	1.4648	0.2950	1.3042	7.8516
14	<i>Erythrina subumbrans</i>	4.3074	1.3674	0.2263	1.0913	6.9925
15	<i>Myrica esculenta</i>	3.0635	0.9094	0.2178	0.8877	5.0784
16	<i>Glochidion sphaerogynum</i>	2.5099	0.7533	0.1750	0.7165	4.1547
17	<i>Symplocos sp.</i>	2.3564	0.7201	0.1459	0.6434	3.8658
18	<i>Anneslea fragrans</i>	2.2483	0.6851	0.1410	0.6174	3.6918
19	<i>Styrax benzoides</i>	1.7755	0.5033	0.1541	0.5637	2.9966
20	<i>Luvunga scandens</i>	1.2709	0.3736	0.0931	0.3746	2.1122
21	<i>Musa acuminata</i>	0.8022	0.2169	0.0858	0.2799	1.3849
22	<i>Syzygium sp.</i>	0.7954	0.2232	0.0754	0.2599	1.3539
23	<i>Gmelina arborea</i>	0.3835	0.1045	0.0389	0.1311	0.6580
24	<i>Eurya nitida</i>	0.3658	0.0994	0.0376	0.1258	0.6287
25	<i>Syzygium albiflorum</i>	0.2054	0.0483	0.0400	0.0942	0.3879
26	<i>Memecylon celastrinum</i>	0.1920	0.0501	0.0235	0.0715	0.3371
27	<i>Wendlandia tinctoria</i>	0.1529	0.0367	0.0269	0.0671	0.2835
28	<i>Phyllanthus emblica</i>	0.1011	0.0244	0.0175	0.0441	0.1871
29	<i>Olea salicifolia</i>	0.0751	0.0185	0.0119	0.0314	0.1368
30	<i>Syzygium sp.</i>	0.0641	0.0156	0.0106	0.0274	0.1177
31	<i>Milletia pachycarpa</i>	0.0360	0.0081	0.0084	0.0180	0.0704
32	<i>Litsea cubeba</i>	0.0168	0.0032	0.0078	0.0115	0.0394
33	<i>Albizia odoratissima</i>	0.0096	0.0021	0.0027	0.0052	0.0196
34	<i>Trichilla connaroides</i>	0.0036	0.0007	0.0013	0.0022	0.0078
	Total	519	266	30	353	1,169

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	33 year-old pine plantation					
1	<i>Pinus kesiya</i>	80.6687	171.8935	14.9519	359.7388	627.2529
2	<i>Musa acuminata</i>	18.7616	4.7940	2.5661	7.3210	33.4427
3	<i>Wendlandia tinctoria</i>	15.2775	5.2455	0.5816	3.3261	24.4307
4	<i>Cinnamomum iners</i>	11.2453	3.5370	0.6180	2.9038	18.3041
5	<i>Albizia chinensis</i>	6.4111	2.0870	0.3024	1.5460	10.3465
6	<i>Magnolia henryi</i>	5.6688	1.8263	0.2842	1.3993	9.1786
7	<i>Mallotus barbatus</i>	2.5000	0.7107	0.2346	0.8062	4.2515
8	<i>Dalbergia oliveri</i>	0.6612	0.1865	0.0578	0.2113	1.1168
9	<i>Litsea cubeba</i>	0.3704	0.0853	0.0811	0.1784	0.7151
10	<i>Glochidion acuminatum</i>	0.3863	0.0961	0.0606	0.1596	0.7026
11	<i>Ilex umbellulata</i>	0.3430	0.0928	0.0359	0.1189	0.5907
12	<i>Melastoma sanguineum</i>	0.1826	0.0418	0.0406	0.0886	0.3537
13	<i>Grewia laevigata</i>	0.1542	0.0391	0.0218	0.0610	0.2762
14	<i>Ficus ribes</i>	0.1339	0.0306	0.0302	0.0653	0.2600
15	<i>Tadehagi triquetrum</i>	0.1224	0.0270	0.0311	0.0635	0.2439
16	<i>Artocarpus lacucha</i>	0.1229	0.0275	0.0305	0.0627	0.2435
17	<i>Laportea bulbifera</i>	0.1199	0.0279	0.0246	0.0562	0.2286
18	<i>Sapindus rarak</i>	0.1086	0.0248	0.0241	0.0529	0.2104
19	<i>Saurauia napaulensis</i>	0.0946	0.0195	0.0319	0.0558	0.2019
20	<i>Archidendron clypearia</i>	0.0906	0.0210	0.0187	0.0427	0.1731
21	<i>Horsfieldia tomentosa</i>	0.0901	0.0217	0.0162	0.0397	0.1676
22	<i>Phoebe cathia</i>	0.0847	0.0204	0.0149	0.0371	0.1570
23	<i>Ficus sp.</i>	0.0781	0.0185	0.0150	0.0356	0.1472
24	<i>Lindera metcalfiana</i>	0.0594	0.0132	0.0151	0.0307	0.1184
25	<i>Mussaenda sanderiana</i>	0.0524	0.0113	0.0149	0.0285	0.1070
26	<i>Milletia pachycarpa</i>	0.0546	0.0127	0.0111	0.0256	0.1040
27	<i>Alangium chinensis</i>	0.0538	0.0125	0.0109	0.0252	0.1024
28	<i>Neolitsea zeylanica</i>	0.0434	0.0093	0.0128	0.0241	0.0895
29	<i>Myrica esculenta</i>	0.0288	0.0064	0.0075	0.0150	0.0577
30	<i>Trevesia palmata</i>	0.0285	0.0065	0.0065	0.0140	0.0555
31	<i>Litsea monopetala</i>	0.0255	0.0059	0.0054	0.0122	0.0489
32	<i>Aegialitis rotundifolia</i>	0.0246	0.0054	0.0064	0.0129	0.0493
33	<i>Nyssa javanica</i>	0.0201	0.0039	0.0088	0.0134	0.0462
34	<i>Schima wallichii</i>	0.0203	0.0043	0.0061	0.0114	0.0421
35	<i>Ardisia attenuata</i>	0.0204	0.0044	0.0055	0.0109	0.0412
36	<i>Bridelia retusa</i>	0.0180	0.0038	0.0053	0.0100	0.0371
37	<i>Sorbus granulosa</i>	0.0186	0.0042	0.0043	0.0092	0.0363
38	<i>Phoebe paniculata</i>	0.0173	0.0037	0.0051	0.0096	0.0357
39	<i>Ampelocissus martinii</i>	0.0156	0.0033	0.0050	0.0090	0.0329
40	<i>Rauvolfia cambodiana</i>	0.0095	0.0019	0.0038	0.0061	0.0214
41	<i>Desmodium megaphyllum</i>	0.0069	0.0013	0.0033	0.0048	0.0164
42	<i>Eurya nitida</i>	0.0073	0.0015	0.0022	0.0041	0.0150
43	<i>Tetrastigma quadrangulatum</i>	0.0068	0.0014	0.0021	0.0038	0.0141
44	<i>Canthium berberidifolium</i>	0.0064	0.0013	0.0025	0.0040	0.0142
45	<i>Rubus rugosus</i>	0.0059	0.0012	0.0021	0.0035	0.0127
46	<i>Terminalia chebula</i>	0.0050	0.0010	0.0017	0.0029	0.0106
47	<i>Macaranga kurzii</i>	0.0034	0.0007	0.0013	0.0021	0.0075
48	<i>Glochidion hirsutum</i>	0.0024	0.0005	0.0010	0.0015	0.0053
49	<i>Turpinia cochinchinensis</i>	0.0024	0.0005	0.0010	0.0015	0.0053
50	<i>Ficus hispida</i>	0.0020	0.0004	0.0009	0.0013	0.0046
51	<i>Gaultheria notabilis</i>	0.0013	0.0003	0.0006	0.0009	0.0031
52	<i>Stereospermum neuranthum</i>	0.0012	0.0002	0.0006	0.0008	0.0029
53	<i>Fraxinus floribunda</i>	0.0009	0.0002	0.0006	0.0007	0.0024
	Total	144	191	20	379	734

Table 3-8 (Continued)

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	34 year-old pine plantation					
1	<i>Pinus kesiya</i>	37.0334	75.5576	6.8719	167.9001	287.3630
2	<i>Castanopsis purpurea</i>	243.6616	77.8630	12.9773	61.5754	396.0772
3	<i>Quercus vestita</i>	110.8440	37.1689	4.7202	25.3643	178.0974
4	<i>Schima wallichii</i>	79.8564	27.2560	3.1432	17.6391	127.8947
5	<i>Quercus brandisiana</i>	53.8432	17.0712	2.9783	13.8300	87.7227
6	<i>Syzygium cumini</i>	26.2591	9.3436	0.8439	5.3163	41.7629
7	<i>Wendlandia tinctoria</i>	13.3161	3.6697	1.3160	4.4786	22.7804
8	<i>Dalbergia assamica</i>	12.4145	3.7578	0.8787	3.5283	20.5794
9	<i>Viburnum sambucinum</i>	6.8288	2.2078	0.3402	1.6781	11.0550
10	<i>Aporosa villosa</i>	5.5559	1.5284	0.5600	1.8802	9.5245
11	<i>Glochidion sphaerogynum</i>	4.5000	1.3136	0.3634	1.3673	7.5443
12	<i>Craibiodendron stellatum</i>	3.4233	0.9816	0.2969	1.0743	5.7761
13	<i>Lithocarpus elegans</i>	3.2081	0.9772	0.2098	0.8897	5.2848
14	<i>Albizia odoratissima</i>	2.9782	0.8368	0.2659	0.9600	5.0409
15	<i>Phyllanthus emblica</i>	2.3713	0.5832	0.3891	1.0018	4.3454
16	<i>Cycas pectinata</i>	2.0135	0.5688	0.1789	0.6448	3.4059
17	<i>Lithocarpus sootepensis</i>	1.9551	0.5905	0.1274	0.5463	3.2192
18	<i>Stereospermum colias</i>	1.7507	0.5251	0.1175	0.4959	2.8893
19	<i>Vaccinium sprengelii</i>	1.2376	0.3557	0.1053	0.3856	2.0842
20	<i>Glochidion hirsutum</i>	1.1868	0.3128	0.1414	0.4351	2.0762
21	<i>Eriolaena candollei</i>	1.1612	0.3126	0.1263	0.4083	2.0084
22	<i>Horsfieldia tomentosa</i>	0.4831	0.1336	0.0460	0.1605	0.8232
23	<i>Albizia chinensis</i>	0.3444	0.0932	0.0360	0.1194	0.5930
24	<i>Canarium subulatum</i>	0.3150	0.0848	0.0337	0.1104	0.5439
25	<i>Anneslea fragrans</i>	0.2617	0.0667	0.0363	0.1026	0.4674
26	<i>Pavetta tomentosa</i>	0.2155	0.0551	0.0299	0.0842	0.3847
27	<i>Helicia nilagirica</i>	0.1737	0.0439	0.0248	0.0691	0.3116
28	<i>Styrax benzoides</i>	0.1677	0.0429	0.0228	0.0652	0.2987
29	<i>Diospyros glandulosa</i>	0.1484	0.0381	0.0195	0.0571	0.2631
30	<i>Gluta usitata</i>	0.1484	0.0381	0.0195	0.0571	0.2631
31	<i>Antidesma acidum</i>	0.1228	0.0291	0.0232	0.0555	0.2306
32	<i>Dalbergia cultrata</i>	0.1085	0.0273	0.0155	0.0434	0.1947
33	<i>Phoebe paniculata</i>	0.0899	0.0211	0.0178	0.0416	0.1704
34	<i>Canthium sp.</i>	0.0877	0.0201	0.0189	0.0422	0.1688
35	<i>Engelhardtia spicata</i>	0.0795	0.0186	0.0160	0.0370	0.1511
36	<i>Protium serratum</i>	0.0391	0.0083	0.0118	0.0220	0.0812
37	<i>Dillenia aurea</i>	0.0349	0.0080	0.0077	0.0170	0.0676
38	<i>Syzygium albiflorum</i>	0.0292	0.0062	0.0084	0.0161	0.0599
39	<i>Rhus javanica</i>	0.0153	0.0032	0.0051	0.0089	0.0324
40	<i>Tristania rufescens</i>	0.0116	0.0025	0.0031	0.0061	0.0233
41	<i>Symplocos racemosa</i>	0.0105	0.0023	0.0028	0.0056	0.0213
42	<i>Schoepfia fragrans</i>	0.0096	0.0021	0.0027	0.0052	0.0196
43	<i>Litsea cubeba</i>	0.0096	0.0021	0.0027	0.0052	0.0196
44	<i>Maesa permollis</i>	0.0071	0.0014	0.0029	0.0046	0.0160
45	<i>Blumea balsamifera</i>	0.0073	0.0015	0.0022	0.0041	0.0150
46	<i>Castanopsis diversifolia</i>	0.0050	0.0010	0.0017	0.0029	0.0106
47	<i>Eurya nitida</i>	0.0036	0.0007	0.0013	0.0022	0.0078
48	<i>Celastrus paniculata</i>	0.0034	0.0007	0.0013	0.0021	0.0075
49	<i>Tadehagi triquetrum</i>	0.0027	0.0005	0.0011	0.0017	0.0061
50	<i>Engelhardtia serrata</i>	0.0024	0.0005	0.0010	0.0015	0.0053
	Total	618	264	37	313	1,232

Table 3-9 Magnesium storages of tree species in a series of pine plantations

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>14 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	7.5848	3.2373	1.5658	11.9308	24.3188
2	<i>Glochidion sphaerogynum</i>	21.7631	7.1715	4.3958	3.2722	36.6027
3	<i>Schima wallichii</i>	11.9827	4.3252	1.6430	1.5078	19.4587
4	<i>Albizia chinensis</i>	7.7950	2.8105	1.0461	0.9765	12.6281
5	<i>Callicarpa arborea</i>	3.7781	1.3385	0.5473	0.4901	6.1540
6	<i>Litsea sp.</i>	3.4116	1.1402	0.6309	0.4955	5.6782
7	<i>Castanopsis diversifolia</i>	3.2131	1.1738	0.4038	0.3914	5.1820
8	<i>Ficus ribes</i>	2.6408	0.9336	0.3792	0.3426	4.2961
9	<i>Eriolaena candollei</i>	2.3410	0.8231	0.3506	0.3082	3.8229
10	<i>Myrica esculenta</i>	2.0208	0.6990	0.3305	0.2761	3.3264
11	<i>Syzygium cumini</i>	1.9142	0.7005	0.2416	0.2330	3.0893
12	<i>Engelhardtia spicata</i>	1.8225	0.6076	0.3541	0.2684	3.0527
13	<i>Archidendron clypearia</i>	1.8278	0.6753	0.2165	0.2173	2.9368
14	<i>Ficus callosa</i>	1.6847	0.5463	0.3530	0.2594	2.8434
15	<i>Albizia odoratissima</i>	1.4061	0.5109	0.1788	0.1727	2.2686
16	<i>Phyllanthus emblica</i>	0.7630	0.2255	0.2399	0.1412	1.3695
17	<i>Phoebe lanceolata</i>	0.6942	0.2413	0.1070	0.0931	1.1355
18	<i>Grewia laevigata</i>	0.6723	0.2332	0.1045	0.0905	1.1005
19	<i>Litsea monopetala</i>	0.2628	0.0830	0.0618	0.0426	0.4502
20	<i>Colona flagrocarpa</i>	0.2075	0.0641	0.0533	0.0351	0.3599
21	<i>Memecylon celastrinum</i>	0.2047	0.0633	0.0525	0.0346	0.3550
22	<i>Ternstroemia gymnanthera</i>	0.1744	0.0524	0.0509	0.0312	0.3089
23	<i>Wendlandia tinctoria</i>	0.1529	0.0462	0.0434	0.0270	0.2696
24	<i>Eurya nitida</i>	0.1391	0.0437	0.0332	0.0228	0.2387
25	<i>Glochidion hirsutum</i>	0.1295	0.0378	0.0424	0.0245	0.2342
26	<i>Horsfieldia tomentosa</i>	0.0932	0.0274	0.0297	0.0174	0.1677
27	<i>Dolichandrone serrulata</i>	0.0881	0.0254	0.0308	0.0171	0.1615
28	<i>Aporosa villosa</i>	0.0878	0.0258	0.0280	0.0164	0.1580
29	<i>Syzygium albiflorum</i>	0.0590	0.0161	0.0263	0.0128	0.1142
30	<i>Flacourtia indica</i>	0.0334	0.0096	0.0118	0.0065	0.0613
31	<i>Congea tomentosa</i>	0.0297	0.0084	0.0108	0.0059	0.0548
32	<i>Flemingia lineata</i>	0.0140	0.0038	0.0062	0.0030	0.0271
33	<i>Stereospermum neuranthum</i>	0.0077	0.0020	0.0040	0.0018	0.0156
34	<i>Glochidion acuminatum</i>	0.0026	0.0006	0.0022	0.0008	0.0062
35	<i>Melastoma sanguineum</i>	0.0011	0.0003	0.0010	0.0003	0.0027
36	<i>Micromelum minutum</i>	0.0008	0.0002	0.0008	0.0002	0.0020
	Total	79	28	14	22	142

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	15 year-old pine plantation					
1	<i>Pinus kesiya</i>	3.0185	1.2215	0.6240	4.8361	9.7000
2	<i>Schima wallichii</i>	13.8611	4.8918	2.1194	1.8276	22.6999
3	<i>Castanopsis acuminatissima</i>	11.7734	4.4736	1.2454	1.3268	18.8191
4	<i>Engelhardtia spicata</i>	6.8696	2.4282	1.0057	0.8954	11.1989
5	<i>Beilschmiedia gammieana</i>	6.9087	2.6427	0.7409	0.7758	11.0681
6	<i>Dillenia aurea</i>	5.3262	2.0397	0.5697	0.5972	8.5328
7	<i>Ternstroemia gymnanthera</i>	5.1090	1.7480	0.8532	0.7084	8.4186
8	<i>Helicia terminalis</i>	3.7443	1.3171	0.5615	0.4930	6.1159
9	<i>Phoebe paniculata</i>	3.1064	1.0096	0.6714	0.4807	5.2681
10	<i>Trichilla connaroides</i>	2.9476	1.0910	0.3566	0.3513	4.7465
11	<i>Stereospermum neuranthum</i>	2.7335	0.9988	0.3426	0.3328	4.4077
12	<i>Elaeocarpus sphaericus</i>	1.7877	0.6452	0.2455	0.2248	2.9031
13	<i>Helicia nilagirica</i>	1.4833	0.4941	0.2764	0.2165	2.4702
14	<i>Dalbergia assamica</i>	1.4705	0.5358	0.1848	0.1796	2.3707
15	<i>Castanopsis diversifolia</i>	1.1567	0.4127	0.1643	0.1481	1.8818
16	<i>Glochidion sphaerogynum</i>	1.0270	0.3400	0.2163	0.1551	1.7383
17	<i>Lindera metcalfiana</i>	0.9921	0.2940	0.3201	0.1841	1.7903
18	<i>Memecylon celastrinum</i>	0.9182	0.2715	0.3075	0.1721	1.6693
19	<i>Pyrenaria diospyricarpa</i>	0.7873	0.2193	0.3254	0.1643	1.4964
20	<i>Eurya nitida</i>	0.7293	0.2268	0.1892	0.1228	1.2681
21	<i>Wendlandia tinctoria</i>	0.6544	0.2066	0.1563	0.1066	1.1239
22	<i>Magnolia henryi</i>	0.4715	0.1503	0.1084	0.0754	0.8056
23	<i>Diospyros glandulosa</i>	0.3227	0.0950	0.1096	0.0609	0.5882
24	<i>Eriolaena candollei</i>	0.2637	0.0862	0.0529	0.0399	0.4426
25	<i>Symplocos henschelii</i>	0.2513	0.0795	0.0601	0.0408	0.4318
26	<i>Glochidion acuminatum</i>	0.1673	0.0418	0.1205	0.0443	0.3738
27	<i>Vitex canescens</i>	0.1893	0.0606	0.0415	0.0298	0.3212
28	<i>Phoebe cathia</i>	0.1426	0.0429	0.0408	0.0253	0.2516
29	<i>Saurauia roxburghii</i>	0.1285	0.0372	0.0451	0.0249	0.2357
30	<i>Archidendron clypearia</i>	0.0942	0.0259	0.0422	0.0203	0.1826
31	<i>Albizia odoratissima</i>	0.0618	0.0176	0.0230	0.0123	0.1147
32	<i>Quercus semiserrata</i>	0.0566	0.0164	0.0194	0.0109	0.1032
33	<i>Turpinia cochinchinensis</i>	0.0505	0.0149	0.0159	0.0094	0.0907
34	<i>Melastoma sanguineum</i>	0.0279	0.0064	0.0274	0.0086	0.0702
35	<i>Rhus javanica</i>	0.0214	0.0058	0.0100	0.0047	0.0419
36	<i>Phyllanthus emblica</i>	0.0203	0.0055	0.0092	0.0044	0.0395
37	<i>Blumea balsamifera</i>	0.0064	0.0015	0.0060	0.0020	0.0159
38	<i>Micromelum minutum</i>	0.0045	0.0010	0.0040	0.0013	0.0109
39	<i>Mussaenda sanderiana</i>	0.0034	0.0009	0.0022	0.0009	0.0074
40	<i>Lepisanthes rubiginosa</i>	0.0030	0.0007	0.0027	0.0009	0.0072
41	<i>Fissistigma minuticalyx</i>	0.0011	0.0003	0.0010	0.0003	0.0027
42	<i>Ampelocissus martinii</i>	0.0007	0.0002	0.0007	0.0002	0.0018
43	<i>Litsea monopetala</i>	0.0007	0.0001	0.0007	0.0002	0.0017
44	<i>Eurya acuminata</i>	0.0006	0.0001	0.0006	0.0002	0.0015
45	<i>Cinnamomum iners</i>	0.0005	0.0001	0.0006	0.0002	0.0013
46	<i>Euodia roxburghiana</i>	0.0005	0.0001	0.0005	0.0002	0.0013
47	<i>Milletia pachycarpa</i>	0.0005	0.0001	0.0005	0.0002	0.0012
48	<i>Litsea cubeba</i>	0.0003	0.0001	0.0004	0.0001	0.0008
49	<i>Arytera littoralis</i>	0.0003	0.0001	0.0004	0.0001	0.0008
50	<i>Myrica esculenta</i>	0.0003	0.0001	0.0004	0.0001	0.0008
51	<i>Styrax benzoides</i>	0.0003	0.0001	0.0004	0.0001	0.0008
52	<i>Litsea glutinosa</i>	0.0003	0.0001	0.0004	0.0001	0.0008
53	<i>Viburnum sambucinum</i>	0.0001	0.0000	0.0002	0.0001	0.0004
54	<i>Buddleja asiatica</i>	0.0001	0.0000	0.0002	0.0000	0.0003
	Total	79	28	12	15	134

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>16 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	15.8324	6.7018	3.2695	25.0124	50.8161
2	<i>Schima wallichii</i>	5.3691	1.8371	0.9019	0.7455	8.8536
3	<i>Canarium subulatum</i>	1.9928	0.6966	0.3026	0.2648	3.2568
4	<i>Wendlandia tinctoria</i>	1.8897	0.6115	0.4104	0.2940	3.2056
5	<i>Spatholobus parviflorus</i>	1.7252	0.6082	0.2503	0.2249	2.8086
6	<i>Engelhardtia spicata</i>	1.5539	0.5386	0.2470	0.2104	2.5499
7	<i>Phoebe paniculata</i>	1.4839	0.4916	0.2851	0.2192	2.4798
8	<i>Vitex peduncularis</i>	1.1566	0.3851	0.2177	0.1693	1.9287
9	<i>Glochidion sphaerogynum</i>	0.3546	0.1062	0.1046	0.0638	0.6291
10	<i>Ampelocissus martinii</i>	0.3442	0.1074	0.0854	0.0572	0.5942
11	<i>Musa acuminata</i>	0.3340	0.0966	0.1173	0.0648	0.6126
12	<i>Eriolaena candollei</i>	0.3479	0.1157	0.0647	0.0508	0.5791
13	<i>Phoebe cathia</i>	0.2589	0.0839	0.0562	0.0401	0.4391
14	<i>Lindera metcalfiana</i>	0.1545	0.0454	0.0597	0.0301	0.2897
15	<i>Glochidion acuminatum</i>	0.1136	0.0255	0.1171	0.0361	0.2923
16	<i>Glochidion hirsutum</i>	0.1187	0.0344	0.0405	0.0228	0.2165
17	<i>Melastoma sanguineum</i>	0.0281	0.0064	0.0267	0.0086	0.0697
18	<i>Saurauia roxburghii</i>	0.0177	0.0044	0.0113	0.0045	0.0380
19	<i>Eurya nitida</i>	0.0171	0.0042	0.0125	0.0046	0.0384
20	<i>Litsea cubeba</i>	0.0154	0.0036	0.0136	0.0045	0.0371
21	<i>Litsea monopetala</i>	0.0141	0.0035	0.0089	0.0036	0.0302
22	<i>Archidendron clypearia</i>	0.0078	0.0019	0.0057	0.0021	0.0176
23	<i>Trichilla connaroides</i>	0.0068	0.0016	0.0063	0.0021	0.0167
24	<i>Rauvolfia cambodiana</i>	0.0056	0.0012	0.0059	0.0018	0.0145
25	<i>Blumea balsamifera</i>	0.0040	0.0009	0.0050	0.0014	0.0113
26	<i>Ficus callosa</i>	0.0045	0.0011	0.0027	0.0011	0.0094
27	<i>Pyrenaria diospyricarpa</i>	0.0037	0.0008	0.0038	0.0012	0.0096
28	<i>Colona flagrocarpa</i>	0.0025	0.0005	0.0029	0.0008	0.0068
29	<i>Viburnum sambucinum</i>	0.0009	0.0002	0.0010	0.0003	0.0024
30	<i>Mussaenda sanderiana</i>	0.0006	0.0001	0.0008	0.0002	0.0017
31	<i>Diospyros glandulosa</i>	0.0005	0.0001	0.0006	0.0002	0.0014
32	<i>Artocarpus lacucha</i>	0.0005	0.0001	0.0006	0.0002	0.0014
33	<i>Micromelum minutum</i>	0.0004	0.0001	0.0004	0.0001	0.0010
	Total	33	13	7	28	80

Table 3-9 (Continued)

No	Species	Magnesium (kg ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	17 year-old pine plantation					
1	<i>Pinus kesiya</i>	3.0985	1.1941	0.6412	5.0453	9.9791
2	<i>Schima wallichii</i>	13.1640	4.4974	2.2724	1.8428	21.7765
3	<i>Myrica esculenta</i>	10.9637	3.8476	1.6827	1.4552	17.9493
4	<i>Engelhardtia spicata</i>	9.2170	3.2376	1.5400	1.2483	15.2429
5	<i>Castanopsis diversifolia</i>	8.7424	3.0658	1.3584	1.1642	14.3307
6	<i>Quercus semiserrata</i>	8.5974	3.5014	0.6707	0.8442	13.6138
7	<i>Helicia terminalis</i>	7.1042	2.2861	1.5788	1.1172	12.0863
8	<i>Castanopsis acuminatissima</i>	5.5928	2.1891	0.5335	0.5975	8.9130
9	<i>Phoebe cathia</i>	5.0151	1.9672	0.4706	0.5324	7.9853
10	<i>Wendlandia tinctoria</i>	4.5201	1.4508	1.0319	0.7175	7.7202
11	<i>Syzygium albiflorum</i>	3.9928	1.4074	0.5830	0.5215	6.5047
12	<i>Elaeocarpus sphaericus</i>	3.4346	1.2304	0.4789	0.4368	5.5807
13	<i>Phyllanthus emblica</i>	2.8374	0.8235	0.9787	0.5459	5.1855
14	<i>Glochidion sphaerogynum</i>	1.6495	0.4901	0.5216	0.3041	2.9653
15	<i>Beilschmiedia gammieana</i>	1.5277	0.5088	0.2924	0.2243	2.5531
16	<i>Diospyros glandulosa</i>	1.3709	0.4171	0.3972	0.2418	2.4271
17	<i>Artocarpus lacucha</i>	1.4090	0.5119	0.1799	0.1732	2.2740
18	<i>Albizia chinensis</i>	1.0977	0.3927	0.1493	0.1390	1.7788
19	<i>Heterophragma sulfureum</i>	0.7932	0.2569	0.1712	0.1231	1.3444
20	<i>Trichilla connaroides</i>	0.5683	0.1781	0.1459	0.0948	0.9871
21	<i>Lithocarpus sp.</i>	0.5426	0.1705	0.1295	0.0887	0.9313
22	<i>Eurya nitida</i>	0.4853	0.1465	0.1412	0.0864	0.8594
23	<i>Albizia odoratissima</i>	0.4804	0.1610	0.0906	0.0698	0.8019
24	<i>Eriolaena candollei</i>	0.4107	0.1289	0.1001	0.0676	0.7074
25	<i>Dillenia aurea</i>	0.4062	0.1356	0.0770	0.0593	0.6781
26	<i>Phoebe paniculata</i>	0.3541	0.1113	0.0865	0.0582	0.6100
27	<i>Archidendron clypearia</i>	0.3210	0.0980	0.0896	0.0559	0.5646
28	<i>Garuga pinnata</i>	0.3215	0.1036	0.0699	0.0502	0.5452
29	<i>Ternstroemia gymnanthera</i>	0.3030	0.0967	0.0687	0.0482	0.5165
30	<i>Erythrina subumbrans</i>	0.2616	0.0855	0.0526	0.0396	0.4392
31	<i>Litsea glutinosa</i>	0.2174	0.0630	0.0760	0.0420	0.3984
32	<i>Helicia nilagirica</i>	0.2241	0.0725	0.0470	0.0346	0.3782
33	<i>Glochidion acuminatum</i>	0.1604	0.0393	0.1283	0.0444	0.3723
34	<i>Symplocos sp.</i>	0.1491	0.0443	0.0457	0.0273	0.2665
35	<i>Memecylon celastrinum</i>	0.1292	0.0355	0.0571	0.0277	0.2495
36	<i>Pyrenaria diospyricarpa</i>	0.1259	0.0332	0.0673	0.0294	0.2557
37	<i>Kydia calycina</i>	0.1326	0.0415	0.0321	0.0218	0.2279
38	<i>Glochidion hirsutum</i>	0.1136	0.0319	0.0440	0.0232	0.2127
39	<i>Melastoma sanguineum</i>	0.0992	0.0231	0.0893	0.0295	0.2410
40	<i>Arytera littoralis</i>	0.0875	0.0235	0.0469	0.0201	0.1779
41	<i>Rhus succedanea</i>	0.0915	0.0268	0.0294	0.0171	0.1649
42	<i>Cinnamomum iners</i>	0.0809	0.0234	0.0289	0.0158	0.1489
43	<i>Docynia indica</i>	0.0693	0.0195	0.0267	0.0141	0.1296
44	<i>Ampelocissus martinii</i>	0.0705	0.0207	0.0228	0.0132	0.1272
45	<i>Sapindus rarak</i>	0.0372	0.0104	0.0147	0.0076	0.0700
46	<i>Blumea balsamifera</i>	0.0323	0.0075	0.0298	0.0097	0.0793
47	<i>Carallia brachiata</i>	0.0323	0.0093	0.0115	0.0063	0.0594
48	<i>Xanthophyllum virens</i>	0.0248	0.0070	0.0095	0.0050	0.0463
49	<i>Lindera metcalifiana</i>	0.0183	0.0047	0.0110	0.0045	0.0385
50	<i>Litsea sp.</i>	0.0109	0.0027	0.0079	0.0030	0.0244
51	<i>Alstonia scholaris</i>	0.0106	0.0026	0.0075	0.0029	0.0236
52	<i>Symplocos henschelii</i>	0.0101	0.0026	0.0059	0.0025	0.0210
53	<i>Ilex umbellulata</i>	0.0076	0.0020	0.0040	0.0018	0.0153
54	<i>Catunaregam tomentosa</i>	0.0052	0.0013	0.0036	0.0014	0.0115
55	<i>Anneslea fragrans</i>	0.0035	0.0009	0.0023	0.0009	0.0076
56	<i>Saurauia roxburghii</i>	0.0023	0.0006	0.0017	0.0006	0.0052
57	<i>Spondias bipinnata</i>	0.0015	0.0004	0.0012	0.0004	0.0035
58	<i>Rhus javanica</i>	0.0015	0.0003	0.0012	0.0004	0.0035
59	<i>Viburnum sambucinum</i>	0.0011	0.0003	0.0010	0.0003	0.0026
60	<i>Euodia roxburghiana</i>	0.0009	0.0002	0.0011	0.0003	0.0025
61	<i>Quercus brandisiana</i>	0.0003	0.0001	0.0004	0.0001	0.0008
	Total	101	35	17	18	172

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	18 year-old pine plantation					
1	<i>Pinus kesiya</i>	11.8026	4.8899	2.4383	18.7499	37.8807
2	<i>Castanopsis purpurea</i>	13.5738	4.5853	2.4854	1.9482	22.5927
3	<i>Schima wallichii</i>	6.6471	2.3260	1.0622	0.8930	10.9282
4	<i>Eriolaena candollei</i>	6.4150	2.2593	0.9811	0.8482	10.5036
5	<i>Castanopsis acuminatissima</i>	6.0210	2.0799	0.9768	0.8218	9.8994
6	<i>Quercus vestita</i>	5.7620	1.8797	1.2059	0.8818	9.7294
7	<i>Castanopsis diversifolia</i>	5.5307	1.8666	1.0179	0.7953	9.2105
8	<i>Wendlandia tinctoria</i>	5.0307	1.5082	1.5142	0.9092	8.9624
9	<i>Glochidion sphaerogynum</i>	4.8894	1.5876	1.0551	0.7571	8.2892
10	<i>Dalbergia assamica</i>	3.7940	1.2022	0.9802	0.6291	6.6055
11	<i>Acacia megaladena</i>	3.4719	1.3356	0.3453	0.3812	5.5340
12	<i>Ternstroemia gymnanthera</i>	1.8747	0.5992	0.4207	0.2973	3.1920
13	<i>Archidendron clypearia</i>	1.7686	0.5883	0.3331	0.2591	2.9491
14	<i>Albizia odoratissima</i>	1.6201	0.5867	0.2139	0.2013	2.6221
15	<i>Phoebe lanceolata</i>	1.5340	0.5149	0.2797	0.2211	2.5497
16	<i>Ficus ribes</i>	1.4845	0.5195	0.2228	0.1965	2.4234
17	<i>Castanopsis tribuloides</i>	1.4552	0.5082	0.2202	0.1934	2.3770
18	<i>Helicia terminalis</i>	1.1943	0.3954	0.2305	0.1768	1.9970
19	<i>Lithocarpus sootepensis</i>	1.1649	0.3763	0.2481	0.1807	1.9699
20	<i>Erythrina subumbrans</i>	0.8988	0.3065	0.1518	0.1254	1.4825
21	<i>Syzygium cumini</i>	0.8923	0.2957	0.1701	0.1316	1.4896
22	<i>Eurya nitida</i>	0.8346	0.2605	0.2073	0.1387	1.4410
23	<i>Syzygium albiflorum</i>	0.8004	0.2449	0.2244	0.1396	1.4093
24	<i>Phyllanthus emblica</i>	0.7619	0.2235	0.2499	0.1434	1.3786
25	<i>Diospyros glandulosa</i>	0.7516	0.2374	0.1779	0.1221	1.2890
26	<i>Stereospermum neuranthum</i>	0.6190	0.2022	0.1268	0.0941	1.0422
27	<i>Protium serratum</i>	0.5877	0.1938	0.1139	0.0874	0.9828
28	<i>Aporosa villosa</i>	0.5625	0.1662	0.1795	0.1045	1.0128
29	<i>Elaeocarpus sphaericus</i>	0.5059	0.1724	0.0850	0.0705	0.8338
30	<i>Engelhardtia spicata</i>	0.5039	0.1716	0.0847	0.0703	0.8305
31	<i>Gluta obovata</i>	0.4357	0.1337	0.1169	0.0749	0.7612
32	<i>Magnolia henryi</i>	0.3623	0.1167	0.0783	0.0565	0.6139
33	<i>Dillenia aurea</i>	0.3597	0.1160	0.0793	0.0563	0.6113
34	<i>Pterospermum acerifolium</i>	0.3522	0.1173	0.0653	0.0514	0.5861
35	<i>Symplocos sp.</i>	0.3323	0.1062	0.0742	0.0527	0.5653
36	<i>Anneslea fragrans</i>	0.2436	0.0793	0.0499	0.0372	0.4100
37	<i>Dolichandrone serrulata</i>	0.1987	0.0601	0.0561	0.0350	0.3499
38	<i>Docynia indica</i>	0.2001	0.0643	0.0432	0.0313	0.3389
39	<i>Callicarpa arborea</i>	0.1241	0.0377	0.0347	0.0217	0.2183
40	<i>Gmelina arborea</i>	0.1133	0.0351	0.0286	0.0190	0.1960
41	<i>Colona flagrocarpa</i>	0.0756	0.0229	0.0213	0.0133	0.1331
42	<i>Helicia nilagirica</i>	0.0679	0.0204	0.0197	0.0121	0.1201
43	<i>Vaccinium sprengelii</i>	0.0514	0.0146	0.0189	0.0102	0.0951
44	<i>Symplocos racemosa</i>	0.0462	0.0129	0.0179	0.0094	0.0865
45	<i>Schoepfia fragrans</i>	0.0452	0.0132	0.0146	0.0085	0.0816
46	<i>Styrax benzoides</i>	0.0159	0.0044	0.0069	0.0034	0.0306
	Total	96	33	19	31	179

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>19 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	14.8992	5.8922	3.0814	24.0304	47.9032
2	<i>Castanopsis diversifolia</i>	12.0801	4.0880	2.1716	1.7230	20.0626
3	<i>Eriolaena candollei</i>	8.1716	2.8043	1.3994	1.1374	13.5127
4	<i>Castanopsis purpurea</i>	8.2061	3.0895	0.9946	0.9639	13.2541
5	<i>Albizia chinensis</i>	5.3809	1.8491	0.8857	0.7406	8.8562
6	<i>Wendlandia tinctoria</i>	4.6201	1.4641	1.1375	0.7561	7.9778
7	<i>Ternstroemia gymnanthera</i>	3.0236	1.0947	0.4040	0.3768	4.8991
8	<i>Gluta obovata</i>	2.2037	0.8238	0.2480	0.2560	3.5314
9	<i>Ficus ribes</i>	2.1213	0.7016	0.4116	0.3148	3.5493
10	<i>Schima wallichii</i>	2.0331	0.7082	0.3117	0.2716	3.3246
11	<i>Markhamia stipulata</i>	1.5837	0.5463	0.2548	0.2160	2.6008
12	<i>Syzygium cumini</i>	1.4645	0.5031	0.2398	0.2013	2.4087
13	<i>Phyllanthus emblica</i>	1.0353	0.3135	0.2966	0.1831	1.8285
14	<i>Dolichandrone serrulata</i>	0.9439	0.3076	0.1958	0.1442	1.5915
15	<i>Castanopsis acuminatissima</i>	0.9041	0.3195	0.1297	0.1173	1.4706
16	<i>Protium serratum</i>	0.8676	0.2840	0.1755	0.1313	1.4584
17	<i>Acacia megaladena</i>	0.7590	0.2497	0.1499	0.1137	1.2722
18	<i>Phoebe lanceolata</i>	0.6941	0.2379	0.1162	0.0961	1.1442
19	<i>Glochidion sphaerogynum</i>	0.6626	0.2016	0.1827	0.1156	1.1625
20	<i>Litsea monopetala</i>	0.5453	0.1866	0.0897	0.0753	0.8970
21	<i>Phoebe paniculata</i>	0.4308	0.1403	0.0887	0.0658	0.7256
22	<i>Elaeocarpus sphaericus</i>	0.3667	0.1224	0.0672	0.0532	0.6096
23	<i>Adinandra integerrima</i>	0.2964	0.0885	0.0891	0.0537	0.5277
24	<i>Albizia odoratissima</i>	0.2137	0.0690	0.0454	0.0332	0.3612
25	<i>Horsfieldia tomentosa</i>	0.1367	0.0396	0.0465	0.0262	0.2491
26	<i>Dalbergia velutina</i>	0.1279	0.0400	0.0312	0.0211	0.2202
27	<i>Xanthophyllum virens</i>	0.1246	0.0378	0.0350	0.0219	0.2194
28	<i>Stereospermum neuranthum</i>	0.1023	0.0315	0.0265	0.0174	0.1777
29	<i>Holarrhena pubescens</i>	0.0879	0.0263	0.0270	0.0160	0.1572
30	<i>Dillenia indica</i>	0.0866	0.0261	0.0253	0.0155	0.1536
31	<i>Pterospermum acerifolium</i>	0.0807	0.0245	0.0223	0.0141	0.1416
32	<i>Aporosa wallichii</i>	0.0669	0.0198	0.0211	0.0124	0.1201
33	<i>Helicia nilagirica</i>	0.0570	0.0169	0.0173	0.0104	0.1016
34	<i>Engelhardtia spicata</i>	0.0303	0.0083	0.0132	0.0065	0.0583
35	<i>Vaccinium sprengelii</i>	0.0186	0.0052	0.0077	0.0039	0.0354
36	<i>Syzygium albiflorum</i>	0.0128	0.0035	0.0059	0.0028	0.0250
37	<i>Cinnamomum iners</i>	0.0029	0.0007	0.0020	0.0008	0.0063
38	<i>Arytera littoralis</i>	0.0022	0.0005	0.0021	0.0007	0.0055
	Total	74	26	13	32	147

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>20 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	16.7087	6.6561	3.4550	26.8792	53.6990
2	<i>Bauhinia variegata</i>	5.1502	1.7496	0.9139	0.7296	8.5432
3	<i>Eriolaena candollei</i>	4.4412	1.5224	0.7444	0.6153	7.3233
4	<i>Syzygium albiflorum</i>	1.0765	0.3662	0.1853	0.1511	1.7790
5	<i>Castanopsis diversifolia</i>	0.7335	0.2391	0.1533	0.1123	1.2381
6	<i>Glochidion sphaerogynum</i>	0.7113	0.2476	0.1089	0.0951	1.1629
7	<i>Phyllanthus emblica</i>	0.4813	0.1527	0.1100	0.0772	0.8212
8	<i>Dolichandrone serrulata</i>	0.0428	0.0124	0.0145	0.0082	0.0778
9	<i>Syzygium cumini</i>	0.0204	0.0054	0.0105	0.0047	0.0411
10	<i>Arytera littoralis</i>	0.0169	0.0039	0.0147	0.0050	0.0406
11	<i>Aporosa villosa</i>	0.0128	0.0035	0.0059	0.0028	0.0250
12	<i>Wendlandia tinctoria</i>	0.0112	0.0030	0.0053	0.0025	0.0220
13	<i>Dillenia indica</i>	0.0098	0.0026	0.0048	0.0022	0.0194
14	<i>Litsea monopetala</i>	0.0073	0.0018	0.0049	0.0019	0.0159
15	<i>Phoebe paniculata</i>	0.0022	0.0005	0.0016	0.0006	0.0049
16	<i>Symplocos sp.</i>	0.0008	0.0002	0.0008	0.0002	0.0020
17	<i>Rhus javanica</i>	0.0005	0.0001	0.0006	0.0002	0.0014
	Total	29	11	6	29	75

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>21 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	17.2669	7.0557	3.5685	27.5749	55.4660
2	<i>Schima wallichii</i>	28.2155	10.0840	4.1500	3.6492	46.0987
3	<i>Castanopsis acuminatissima</i>	12.2574	4.3397	1.7731	1.5910	19.9612
4	<i>Anneslea fragrans</i>	11.9712	4.2964	1.6900	1.5247	19.4822
5	<i>Syzygium albiflorum</i>	8.8803	3.3977	1.0902	1.0261	14.3942
6	<i>Castanopsis diversifolia</i>	7.8853	2.9938	0.8592	0.8952	12.6335
7	<i>Lithocarpus elegans</i>	6.4030	2.2945	0.9102	0.8184	10.4260
8	<i>Wendlandia tinctoria</i>	4.8738	1.5254	1.2607	0.8163	8.4761
9	<i>Elaeocarpus sphaericus</i>	4.5978	1.5611	0.8379	0.6562	7.6530
10	<i>Myrica esculenta</i>	2.6528	0.9467	0.3696	0.3387	4.3078
11	<i>Buchanania lanzan</i>	2.5451	0.8764	0.4310	0.3518	4.2043
12	<i>Syzygium cumini</i>	1.8300	0.6129	0.3449	0.2664	3.0542
13	<i>Lithocarpus garrettianus</i>	1.7544	0.5570	0.4061	0.2821	2.9997
14	<i>Glochidion sphaerogynum</i>	1.6028	0.5002	0.4045	0.2674	2.7749
15	<i>Aporosa villosa</i>	1.0966	0.3329	0.3259	0.1955	1.9509
16	<i>Magnolia henryi</i>	1.0834	0.3737	0.1742	0.1478	1.7791
17	<i>Xanthophyllum virens</i>	0.7997	0.2804	0.1186	0.1053	1.3040
18	<i>Engelhardtia spicata</i>	0.6585	0.1995	0.1878	0.1163	1.1621
19	<i>Phoebe paniculata</i>	0.5737	0.1763	0.1522	0.0982	1.0004
20	<i>Albizia chinensis</i>	0.5442	0.1834	0.0981	0.0779	0.9036
21	<i>Symplocos sp.</i>	0.4384	0.1375	0.1060	0.0720	0.7539
22	<i>Engelhardtia serrata</i>	0.3722	0.1174	0.0881	0.0605	0.6383
23	<i>Dalbergia assamica</i>	0.3752	0.1243	0.0733	0.0556	0.6284
24	<i>Tristania rufescens</i>	0.2645	0.0751	0.0988	0.0529	0.4913
25	<i>Albizia odoratissima</i>	0.2597	0.0844	0.0545	0.0399	0.4385
26	<i>Phyllanthus emblica</i>	0.1555	0.0420	0.0719	0.0343	0.3037
27	<i>Diospyros glandulosa</i>	0.1541	0.0436	0.0580	0.0310	0.2867
28	<i>Holarrhena pubescens</i>	0.1502	0.0412	0.0650	0.0321	0.2886
29	<i>Styrax benzoides</i>	0.1101	0.0305	0.0462	0.0232	0.2100
30	<i>Gmelina arborea</i>	0.1033	0.0317	0.0274	0.0177	0.1801
31	<i>Vitex peduncularis</i>	0.0929	0.0256	0.0392	0.0197	0.1773
32	<i>Ampelocissus martinii</i>	0.0741	0.0208	0.0291	0.0151	0.1391
33	<i>Canarium subulatum</i>	0.0591	0.0165	0.0236	0.0122	0.1113
34	<i>Olea salicifolia</i>	0.0567	0.0159	0.0232	0.0118	0.1075
35	<i>Bombax anceps</i>	0.0575	0.0164	0.0206	0.0113	0.1058
36	<i>Eurya nitida</i>	0.0584	0.0174	0.0176	0.0106	0.1040
37	<i>Stereospermum neuranthum</i>	0.0521	0.0147	0.0204	0.0106	0.0978
38	<i>Canarium sp.</i>	0.0149	0.0041	0.0065	0.0032	0.0286
39	<i>Dalbergia foliacea</i>	0.0100	0.0027	0.0049	0.0023	0.0199
40	<i>Rapanea porteriana</i>	0.0040	0.0009	0.0038	0.0012	0.0100
41	<i>Beilschmiedia gammieana</i>	0.0008	0.0002	0.0008	0.0002	0.0020
	Total	120	43	20	41	225

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	22 year-old pine plantation					
1	<i>Pinus kesiya</i>	11.3779	4.4209	2.3544	18.4974	36.6506
2	<i>Quercus brandisiana</i>	17.8121	6.0711	3.1899	2.5211	29.5942
3	<i>Quercus vestita</i>	8.5407	2.6539	2.2073	1.4388	14.8407
4	<i>Lithocarpus polystachyus</i>	7.5355	2.4697	1.5598	1.1455	12.7104
5	<i>Dalbergia cultrata</i>	5.6131	1.8403	1.1539	0.8512	9.4585
6	<i>Schima wallichii</i>	5.2578	1.7579	0.9705	0.7631	8.7493
7	<i>Wendlandia tinctoria</i>	4.4579	1.3353	1.3398	0.8058	7.9388
8	<i>Gluta obovata</i>	4.1341	1.4482	0.6654	0.5550	6.8027
9	<i>Lithocarpus elegans</i>	3.8958	1.2102	1.0036	0.6559	6.7655
10	<i>Tristania rufescens</i>	3.0612	0.9446	0.9008	0.5371	5.4437
11	<i>Lithocarpus sootepensis</i>	3.0021	0.9254	0.8089	0.5147	5.2512
12	<i>Castanopsis purpurea</i>	2.8822	0.8733	0.8226	0.5091	5.0872
13	<i>Ficus ribes</i>	2.3617	0.7515	0.5409	0.3780	4.0321
14	<i>Anneslea fragrans</i>	2.2371	0.7037	0.5520	0.3684	3.8612
15	<i>Erythrina subumbrans</i>	1.7883	0.6597	0.2130	0.2132	2.8742
16	<i>Litsea sp.</i>	1.7443	0.5969	0.2929	0.2422	2.8764
17	<i>Aporosa villosa</i>	1.4803	0.4244	0.5374	0.2917	2.7337
18	<i>Glochidion sphaerogynum</i>	1.3451	0.3989	0.4246	0.2483	2.4169
19	<i>Phyllanthus emblica</i>	1.3009	0.3654	0.5128	0.2664	2.4455
20	<i>Craibiodendron stellatum</i>	0.9563	0.2836	0.3048	0.1769	1.7216
21	<i>Temstroemia gymnanthera</i>	0.9693	0.2986	0.2610	0.1662	1.6951
22	<i>Vaccinium sprengelii</i>	0.7387	0.2080	0.2873	0.1504	1.3845
23	<i>Shorea roxburghii</i>	0.7086	0.2129	0.2141	0.1279	1.2635
24	<i>Syzygium cumini</i>	0.6273	0.1865	0.1989	0.1157	1.1284
25	<i>Semecarpus albescens</i>	0.5933	0.1967	0.1181	0.0883	0.9964
26	<i>Ilex umbellulata</i>	0.5344	0.1751	0.1063	0.0804	0.8962
27	<i>Dalbergia assamica</i>	0.5074	0.1598	0.1207	0.0827	0.8707
28	<i>Eriolaena candollei</i>	0.4816	0.1636	0.0820	0.0676	0.7947
29	<i>Glochidion hirsutum</i>	0.4155	0.1119	0.1957	0.0923	0.8155
30	<i>Engelhardtia serrata</i>	0.4121	0.1196	0.1408	0.0791	0.7516
31	<i>Castanopsis diversifolia</i>	0.4234	0.1350	0.0963	0.0675	0.7222
32	<i>Canarium subulatum</i>	0.3308	0.1097	0.0624	0.0486	0.5515
33	<i>Diospyros glandulosa</i>	0.3257	0.1079	0.0617	0.0480	0.5432
34	<i>Pterospermum acerifolium</i>	0.3113	0.1005	0.0679	0.0485	0.5282
35	<i>Gardenia sootepensis</i>	0.2861	0.0846	0.0889	0.0527	0.5124
36	<i>Spondias bipinnata</i>	0.2288	0.0716	0.0560	0.0378	0.3942
37	<i>Stereospermum neuranthum</i>	0.2281	0.0718	0.0549	0.0373	0.3921
38	<i>Syzygium albiflorum</i>	0.1302	0.0399	0.0354	0.0225	0.2280
39	<i>Viburnum sambucinum</i>	0.1291	0.0387	0.0379	0.0232	0.2288
40	<i>Celastrus paniculata</i>	0.1159	0.0330	0.0422	0.0230	0.2140
41	<i>Lithocarpus lindleyanus</i>	0.1140	0.0336	0.0371	0.0213	0.2060
42	<i>Pavetta tomentosa</i>	0.1060	0.0289	0.0476	0.0231	0.2055
43	<i>Eurya nitida</i>	0.1051	0.0324	0.0271	0.0178	0.1824
44	<i>Vitex peduncularis</i>	0.1018	0.0313	0.0264	0.0173	0.1769
45	<i>Dillenia aurea</i>	0.0870	0.0264	0.0244	0.0152	0.1530
46	<i>Quercus semiserrata</i>	0.0840	0.0239	0.0309	0.0167	0.1555
47	<i>Antidesma acidum</i>	0.0689	0.0180	0.0375	0.0163	0.1408
48	<i>Symplocos racemosa</i>	0.0538	0.0159	0.0166	0.0099	0.0963
49	<i>Dolichandrone serrulata</i>	0.0524	0.0155	0.0163	0.0097	0.0938
50	<i>Beilschmiedia gammieana</i>	0.0511	0.0151	0.0160	0.0095	0.0917
51	<i>Ampelocissus martinii</i>	0.0491	0.0144	0.0156	0.0091	0.0882
52	<i>Engelhardtia spicata</i>	0.0347	0.0097	0.0140	0.0072	0.0656
53	<i>Helicia nilagirica</i>	0.0316	0.0090	0.0113	0.0062	0.0582
54	<i>Gluta usitata</i>	0.0266	0.0073	0.0116	0.0057	0.0513
55	<i>Catunaregam tomentosa</i>	0.0260	0.0073	0.0098	0.0052	0.0483
56	<i>Terminalia chebula</i>	0.0248	0.0066	0.0125	0.0057	0.0496
57	<i>Phoebe lanceolata</i>	0.0182	0.0050	0.0076	0.0038	0.0346
58	<i>Vangueria pubescens</i>	0.0142	0.0038	0.0070	0.0032	0.0282
59	<i>Antidesma sp.</i>	0.0097	0.0024	0.0062	0.0025	0.0208
60	<i>Xantolis cambodiana</i>	0.0049	0.0013	0.0029	0.0012	0.0104
61	<i>Smilax ovalifolia</i>	0.0021	0.0005	0.0016	0.0006	0.0048
	Total	100	33	23	33	189

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>23 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	8.9477	3.5612	1.8507	14.4693	28.8290
2	<i>Quercus vestita</i>	26.0409	9.1566	4.0979	3.4701	42.7654
3	<i>Lithocarpus polystachyus</i>	16.8526	5.8359	2.8050	2.3094	27.8030
4	<i>Schima wallichii</i>	6.2113	2.1564	0.9840	0.8390	10.1907
5	<i>Lithocarpus sootepensis</i>	3.7662	1.2850	0.6889	0.5350	6.2750
6	<i>Lithocarpus elegans</i>	2.7570	0.8943	0.6001	0.4282	4.6797
7	<i>Quercus kingiana</i>	2.5701	0.7964	0.6714	0.4351	4.4730
8	<i>Tristania rufescens</i>	2.0750	0.6150	0.6982	0.3898	3.7780
9	<i>Phyllanthus emblica</i>	1.7710	0.5340	0.5385	0.3191	3.1626
10	<i>Castanopsis purpurea</i>	1.8069	0.6031	0.3443	0.2645	3.0188
11	<i>Protium serratum</i>	1.7233	0.5995	0.2677	0.2312	2.8217
12	<i>Stereospermum neuranthum</i>	1.5167	0.5538	0.1890	0.1845	2.4440
13	<i>Dalbergia assamica</i>	1.4079	0.4368	0.3627	0.2373	2.4447
14	<i>Albizia odoratissima</i>	1.4521	0.5168	0.2128	0.1879	2.3696
15	<i>Craibiodendron stellatum</i>	1.1655	0.3524	0.3658	0.2111	2.0948
16	<i>Vaccinium sprengelii</i>	1.0274	0.2946	0.3864	0.2043	1.9127
17	<i>Lithocarpus fenestratus</i>	0.9735	0.3087	0.2310	0.1576	1.6708
18	<i>Styrax benzoides</i>	0.5920	0.1830	0.1535	0.1003	1.0287
19	<i>Aporosa villosa</i>	0.5780	0.1705	0.1897	0.1082	1.0464
20	<i>Dillenia aurea</i>	0.6023	0.2075	0.0965	0.0822	0.9884
21	<i>Anneslea fragrans</i>	0.4264	0.1296	0.1211	0.0750	0.7521
22	<i>Clausena wallichii</i>	0.4097	0.1286	0.0979	0.0671	0.7033
23	<i>Wendlandia tinctoria</i>	0.3684	0.1070	0.1263	0.0707	0.6724
24	<i>Vangueria pubescens</i>	0.3176	0.0932	0.1018	0.0594	0.5721
25	<i>Syzygium cumini</i>	0.2340	0.0719	0.0624	0.0401	0.4085
26	<i>Castanopsis diversifolia</i>	0.2095	0.0653	0.0522	0.0349	0.3619
27	<i>Celastrus paniculata</i>	0.1685	0.0504	0.0500	0.0304	0.2994
28	<i>Gluta obovata</i>	0.1411	0.0393	0.0578	0.0294	0.2676
29	<i>Glochidion sphaerogynum</i>	0.1287	0.0358	0.0529	0.0268	0.2442
30	<i>Ziziphus oenoplia</i>	0.0800	0.0243	0.0222	0.0140	0.1404
31	<i>Glochidion hirsutum</i>	0.0593	0.0163	0.0257	0.0126	0.1139
32	<i>Symplocos racemosa</i>	0.0529	0.0153	0.0192	0.0103	0.0977
33	<i>Dalbergia foliacea</i>	0.0511	0.0151	0.0160	0.0095	0.0917
34	<i>Gluta usitata</i>	0.0469	0.0129	0.0205	0.0100	0.0903
35	<i>Dalbergia cultrata</i>	0.0456	0.0128	0.0175	0.0092	0.0851
36	<i>Flacourtia indica</i>	0.0418	0.0122	0.0138	0.0079	0.0758
37	<i>Cratoxylum sumatranum</i>	0.0400	0.0116	0.0134	0.0076	0.0726
38	<i>Colona flagrocarpa</i>	0.0343	0.0089	0.0183	0.0081	0.0696
39	<i>Ternstroemia gymnanthera</i>	0.0358	0.0103	0.0124	0.0069	0.0654
40	<i>Lithocarpus lindleyanus</i>	0.0307	0.0088	0.0111	0.0061	0.0566
41	<i>Antidesma acidum</i>	0.0195	0.0052	0.0098	0.0045	0.0389
42	<i>Dolichandrone serrulata</i>	0.0157	0.0041	0.0082	0.0037	0.0317
43	<i>Symplocos henschelii</i>	0.0135	0.0036	0.0061	0.0029	0.0261
44	<i>Semecarpus anacardium</i>	0.0114	0.0031	0.0054	0.0025	0.0224
45	<i>Cratoxylum formosum</i>	0.0112	0.0030	0.0053	0.0025	0.0220
46	<i>Terminalia chebula</i>	0.0082	0.0021	0.0046	0.0020	0.0168
47	<i>Catunaregam tomentosa</i>	0.0052	0.0013	0.0030	0.0013	0.0109
48	<i>Engelhardtia spicata</i>	0.0009	0.0002	0.0009	0.0003	0.0022
49	<i>Turpinia pomifera</i>	0.0008	0.0002	0.0008	0.0002	0.0020
50	<i>Syzygium albiflorum</i>	0.0008	0.0002	0.0008	0.0002	0.0020
	Total	87	30	17	26	159

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>24 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	11.0252	4.2305	2.2819	17.9779	35.5155
2	<i>Castanopsis diversifolia</i>	46.4860	18.7495	3.9752	4.7077	73.9184
3	<i>Schima wallichii</i>	15.6349	5.8669	1.8725	1.8369	25.2113
4	<i>Elaeocarpus sphaericus</i>	11.1979	4.2114	1.3031	1.3036	18.0159
5	<i>Sarcosperma arboreum</i>	7.6493	2.9161	0.8021	0.8579	12.2253
6	<i>Syzygium cumini</i>	7.5596	3.0546	0.6084	0.7535	11.9761
7	<i>Helicia terminalis</i>	4.0549	1.3079	0.8839	0.6333	6.8800
8	<i>Erythrina subumbrans</i>	3.4096	1.2328	0.4496	0.4243	5.5163
9	<i>Glochidion sphaerogynum</i>	2.9348	1.0159	0.4699	0.3986	4.8192
10	<i>Temstroemia gymnanthera</i>	1.9962	0.6881	0.3218	0.2726	3.2786
11	<i>Betula alnoides</i>	1.9628	0.7284	0.2280	0.2313	3.1504
12	<i>Engelhardtia serrata</i>	1.6083	0.5684	0.2327	0.2091	2.6185
13	<i>Styrax benzoides</i>	1.3209	0.4328	0.2733	0.2008	2.2277
14	<i>Magnolia henryi</i>	1.1540	0.4141	0.1549	0.1452	1.8682
15	<i>Engelhardtia spicata</i>	1.1350	0.4069	0.1530	0.1431	1.8381
16	<i>Dalbergia assamica</i>	0.6646	0.2219	0.1228	0.0966	1.1059
17	<i>Eurya nitida</i>	0.5128	0.1629	0.1343	0.0845	0.8946
18	<i>Dalbergia foliacea</i>	0.2754	0.0842	0.0736	0.0474	0.4806
19	<i>Phyllanthus emblica</i>	0.2277	0.0706	0.0599	0.0386	0.3968
20	<i>Callicarpa arborea</i>	0.2042	0.0657	0.0439	0.0319	0.3457
21	<i>Gmelina arborea</i>	0.0958	0.0294	0.0253	0.0164	0.1669
22	<i>Dolichandrone serrulata</i>	0.0810	0.0246	0.0224	0.0142	0.1422
23	<i>Gluta obovata</i>	0.0795	0.0231	0.0267	0.0152	0.1444
24	<i>Helicia nilagirica</i>	0.0640	0.0191	0.0189	0.0115	0.1136
25	<i>Stereospermum neuranthum</i>	0.0556	0.0165	0.0170	0.0102	0.0992
26	<i>Anneslea fragrans</i>	0.0531	0.0157	0.0165	0.0098	0.0950
27	<i>Wendlandia tinctoria</i>	0.0503	0.0137	0.0222	0.0109	0.0972
28	<i>Syzygium albiflorum</i>	0.0475	0.0134	0.0180	0.0096	0.0885
29	<i>Phoebe paniculata</i>	0.0453	0.0124	0.0205	0.0098	0.0881
30	<i>Holarrhena pubescens</i>	0.0317	0.0091	0.0113	0.0062	0.0584
31	<i>Diospyros glandulosa</i>	0.0193	0.0054	0.0079	0.0040	0.0366
32	<i>Turpinia pomifera</i>	0.0159	0.0044	0.0069	0.0034	0.0306
33	<i>Archidendron clypearia</i>	0.0112	0.0027	0.0092	0.0032	0.0262
34	<i>Pavetta tomentosa</i>	0.0053	0.0013	0.0041	0.0015	0.0122
35	<i>Symplocos sp.</i>	0.0022	0.0005	0.0016	0.0006	0.0049
36	<i>Melastoma sanguineum</i>	0.0015	0.0003	0.0017	0.0005	0.0041
37	<i>Rhus javanica</i>	0.0012	0.0003	0.0013	0.0004	0.0031
38	<i>Morinda tomentosa</i>	0.0010	0.0002	0.0012	0.0004	0.0028
39	<i>Pittosporum nepaulense</i>	0.0010	0.0002	0.0009	0.0003	0.0024
40	<i>Albizia odoratissima</i>	0.0009	0.0002	0.0010	0.0003	0.0025
41	<i>Olea salicifolia</i>	0.0008	0.0002	0.0008	0.0002	0.0020
42	<i>Canarium subulatum</i>	0.0007	0.0001	0.0007	0.0002	0.0017
43	<i>Vernonia volkameriifolia</i>	0.0005	0.0001	0.0006	0.0002	0.0014
44	<i>Acacia megaladena</i>	0.0005	0.0001	0.0006	0.0002	0.0013
45	<i>Lindera metcalfiana</i>	0.0003	0.0001	0.0004	0.0001	0.0008
46	<i>Litsea cubeba</i>	0.0001	0.0000	0.0002	0.0001	0.0005
	Total	122	47	15	31	214

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>25 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	14.3695	5.6052	2.9731	23.3230	46.2708
2	<i>Schima wallichii</i>	16.5071	5.8323	2.5126	2.1742	27.0263
3	<i>Castanopsis diversifolia</i>	9.4637	3.3900	1.3572	1.2124	15.4234
4	<i>Syzygium albiflorum</i>	8.9280	3.6013	0.7674	0.9031	14.1997
5	<i>Castanopsis purpurea</i>	6.0791	2.3989	0.5539	0.6379	9.6699
6	<i>Anneslea fragrans</i>	4.5539	1.5689	0.7784	0.6309	7.5320
7	<i>Castanopsis acuminatissima</i>	4.0920	1.4583	0.5663	0.5222	6.6388
8	<i>Wendlandia tinctoria</i>	2.4401	0.7156	0.7950	0.4586	4.4093
9	<i>Helicia nilagirica</i>	1.6912	0.5376	0.3987	0.2729	2.9005
10	<i>Ternstroemia gymnanthera</i>	1.5598	0.5080	0.3266	0.2390	2.6335
11	<i>Glochidion sphaerogynum</i>	1.5265	0.5069	0.2930	0.2250	2.5515
12	<i>Styrax benzoides</i>	1.2221	0.3782	0.3181	0.2070	2.1253
13	<i>Betula alnoides</i>	1.0220	0.3640	0.1418	0.1306	1.6583
14	<i>Gluta obovata</i>	0.8828	0.2665	0.2569	0.1572	1.5634
15	<i>Ficus ribes</i>	0.8184	0.2652	0.1750	0.1267	1.3852
16	<i>Engelhardtia serrata</i>	0.7802	0.2577	0.1513	0.1158	1.3050
17	<i>Lithocarpus sootepensis</i>	0.6745	0.2172	0.1490	0.1058	1.1465
18	<i>Diospyros glandulosa</i>	0.6113	0.1981	0.1285	0.0942	1.0321
19	<i>Callicarpa arborea</i>	0.5697	0.1955	0.0926	0.0783	0.9361
20	<i>Engelhardtia spicata</i>	0.4230	0.1306	0.1119	0.0721	0.7376
21	<i>Tristania rufescens</i>	0.4068	0.1218	0.1213	0.0734	0.7233
22	<i>Dalbergia foliacea</i>	0.2636	0.0787	0.0790	0.0478	0.4691
23	<i>Dalbergia assamica</i>	0.2397	0.0748	0.0591	0.0398	0.4133
24	<i>Dillenia aurea</i>	0.1998	0.0642	0.0432	0.0313	0.3384
25	<i>Phyllanthus emblica</i>	0.1578	0.0453	0.0557	0.0308	0.2897
26	<i>Magnolia henryi</i>	0.1532	0.0484	0.0356	0.0248	0.2620
27	<i>Phoebe paniculata</i>	0.1399	0.0428	0.0380	0.0242	0.2448
28	<i>Phoebe cathia</i>	0.1256	0.0392	0.0308	0.0208	0.2163
29	<i>Eurya nitida</i>	0.1023	0.0315	0.0265	0.0174	0.1777
30	<i>Gluta usitata</i>	0.0926	0.0270	0.0311	0.0176	0.1682
31	<i>Symplocos sp.</i>	0.0531	0.0157	0.0165	0.0098	0.0950
32	<i>Dolichandrone serrulata</i>	0.0212	0.0059	0.0084	0.0044	0.0398
33	<i>Elaeocarpus sphaericus</i>	0.0166	0.0045	0.0076	0.0036	0.0322
34	<i>Aporosa villosa</i>	0.0143	0.0039	0.0064	0.0031	0.0277
35	<i>Olea salicifolia</i>	0.0034	0.0009	0.0022	0.0009	0.0074
36	<i>Acacia megaladena</i>	0.0009	0.0002	0.0010	0.0003	0.0024
37	<i>Archidendron clypearia</i>	0.0007	0.0001	0.0007	0.0002	0.0017
38	<i>Albizia odoratissima</i>	0.0005	0.0001	0.0006	0.0002	0.0014
39	<i>Pavetta tomentosa</i>	0.0004	0.0001	0.0005	0.0001	0.0011
	Total	80	29	13	32	155

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>26 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	23.1048	10.2011	4.7663	35.9664	74.0385
2	<i>Schima wallichii</i>	36.7398	13.4952	4.7742	4.4926	59.5019
3	<i>Quercus semiserrata</i>	14.5615	6.1324	0.9805	1.3381	23.0125
4	<i>Castanopsis diversifolia</i>	14.3106	5.5440	1.4831	1.5745	22.9122
5	<i>Helicia nilagirica</i>	9.3089	3.5821	0.9333	1.0238	14.8480
6	<i>Syzygium albiflorum</i>	5.4972	2.1375	0.5524	0.5980	8.7852
7	<i>Ternstroemia gymnanthera</i>	5.0848	1.8687	0.6554	0.6189	8.2279
8	<i>Stereospermum neuranthum</i>	4.9147	1.9327	0.4447	0.5168	7.8089
9	<i>Syzygium cumini</i>	3.4902	1.3431	0.3466	0.3829	5.5628
10	<i>Castanopsis purpurea</i>	2.9243	1.1129	0.3047	0.3279	4.6698
11	<i>Dillenia aurea</i>	2.5452	0.9602	0.2754	0.2904	4.0712
12	<i>Phoebe paniculata</i>	2.4208	0.8590	0.3451	0.3124	3.9373
13	<i>Elaeocarpus sphaericus</i>	1.2330	0.4158	0.2171	0.1755	2.0414
14	<i>Engelhardtia spicata</i>	1.2101	0.4022	0.2301	0.1778	2.0203
15	<i>Toona ciliata</i>	1.1099	0.3973	0.1505	0.1404	1.7981
16	<i>Helicia terminalis</i>	0.8786	0.2811	0.1988	0.1395	1.4979
17	<i>Dalbergia assamica</i>	0.8214	0.2629	0.1889	0.1308	1.4041
18	<i>Lithocarpus elegans</i>	0.7232	0.2274	0.1758	0.1187	1.2451
19	<i>Castanopsis acuminatissima</i>	0.6717	0.2257	0.1213	0.0965	1.1152
20	<i>Quercus vestita</i>	0.3402	0.1078	0.0831	0.0555	0.5866
21	<i>Wendlandia tinctoria</i>	0.2948	0.0890	0.0833	0.0521	0.5192
22	<i>Myrica esculenta</i>	0.2588	0.0845	0.0522	0.0392	0.4347
23	<i>Albizia chinensis</i>	0.2186	0.0706	0.0461	0.0338	0.3692
24	<i>Glochidion sphaerogynum</i>	0.1921	0.0563	0.0628	0.0362	0.3474
25	<i>Styrax benzoides</i>	0.1590	0.0504	0.0366	0.0256	0.2716
26	<i>Vaccinium sprengelii</i>	0.1170	0.0345	0.0374	0.0218	0.2107
27	<i>Magnolia elegans</i>	0.0325	0.0092	0.0125	0.0066	0.0607
28	<i>Eurya nitida</i>	0.0276	0.0077	0.0114	0.0058	0.0524
29	<i>Terminalia chebula</i>	0.0160	0.0044	0.0069	0.0034	0.0307
30	<i>Aporosa villosa</i>	0.0031	0.0008	0.0021	0.0008	0.0068
31	<i>Acacia megaladena</i>	0.0004	0.0001	0.0004	0.0001	0.0010
	Total	133	52	18	49	251

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				Total
		Stem	Branch	Leaf	Root	
	27 year-old pine plantation					
1	<i>Pinus kesiya</i>	14.1555	6.0003	2.9230	22.3413	45.4201
2	<i>Schima wallichii</i>	58.1373	20.4240	8.7936	7.6815	95.0363
3	<i>Castanopsis diversifolia</i>	6.1078	2.1277	0.9576	0.8201	10.0132
4	<i>Glochidion sphaerogynum</i>	5.7583	1.9249	1.0970	0.8422	9.6223
5	<i>Phoebe paniculata</i>	5.4503	1.8894	0.8974	0.7425	8.9796
6	<i>Elaeocarpus sphaericus</i>	5.0006	1.7354	0.7875	0.6745	8.1981
7	<i>Dalbergia velutina</i>	3.9050	1.1937	1.0664	0.6766	6.8418
8	<i>Betula alnoides</i>	3.7688	1.3953	0.4424	0.4462	6.0526
9	<i>Buchanania lanzan</i>	3.4965	1.2911	0.4213	0.4173	5.6262
10	<i>Castanopsis purpurea</i>	3.2207	1.1366	0.4684	0.4197	5.2455
11	<i>Wendlandia tinctoria</i>	2.4078	0.7725	0.5442	0.3809	4.1053
12	<i>Lithocarpus elegans</i>	1.5740	0.4987	0.3729	0.2548	2.7004
13	<i>Syzygium albiflorum</i>	1.2999	0.4379	0.2437	0.1878	2.1693
14	<i>Styrax benzoides</i>	0.8322	0.2774	0.1693	0.1236	1.4024
15	<i>Albizia odoratissima</i>	0.8312	0.2912	0.1268	0.1102	1.3594
16	<i>Eurya nitida</i>	0.7297	0.2435	0.1481	0.1080	1.2293
17	<i>Helicia terminalis</i>	0.6616	0.2093	0.1602	0.1079	1.1390
18	<i>Quercus brandisiana</i>	0.6383	0.2207	0.1006	0.0865	1.0461
19	<i>Symplocos racemosa</i>	0.5851	0.1884	0.1270	0.0914	0.9920
20	<i>Castanopsis acuminatissima</i>	0.5526	0.1893	0.0906	0.0762	0.9088
21	<i>Cleidion spiciflorum</i>	0.4383	0.1417	0.0923	0.0677	0.7401
22	<i>Symplocos sp.</i>	0.3559	0.1130	0.0837	0.0574	0.6099
23	<i>Lithocarpus fenestratus</i>	0.2842	0.0876	0.0740	0.0483	0.4942
24	<i>Colona flagrocarpa</i>	0.2359	0.0766	0.0488	0.0362	0.3975
25	<i>Memecylon edule</i>	0.1991	0.0601	0.0570	0.0353	0.3515
26	<i>Syzygium cumini</i>	0.1902	0.0609	0.0422	0.0300	0.3233
27	<i>Mallotus paniculatus</i>	0.1504	0.0350	0.1328	0.0445	0.3627
28	<i>Markhamia pierrei</i>	0.1628	0.0515	0.0384	0.0264	0.2790
29	<i>Engelhardtia spicata</i>	0.1315	0.0396	0.0380	0.0234	0.2325
30	<i>Lithocarpus garrettianus</i>	0.1044	0.0320	0.0283	0.0180	0.1828
31	<i>Semecarpus albescens</i>	0.0975	0.0299	0.0256	0.0167	0.1698
32	<i>Helicia nilagirica</i>	0.0925	0.0272	0.0292	0.0172	0.1661
33	<i>Neolitsea zeylanica</i>	0.0578	0.0136	0.0504	0.0169	0.1387
34	<i>Myrica esculenta</i>	0.0606	0.0173	0.0229	0.0121	0.1128
35	<i>Anneslea fragrans</i>	0.0562	0.0166	0.0177	0.0104	0.1009
36	<i>Phoebe lanceolata</i>	0.0195	0.0049	0.0139	0.0051	0.0434
37	<i>Catunaregam tomentosa</i>	0.0140	0.0030	0.0167	0.0048	0.0386
38	<i>Phyllanthus emblica</i>	0.0132	0.0033	0.0084	0.0033	0.0282
39	<i>Archidendron clypearia</i>	0.0098	0.0023	0.0091	0.0030	0.0241
40	<i>Artocarpus sp.</i>	0.0092	0.0023	0.0066	0.0025	0.0205
41	<i>Blumea balsamifera</i>	0.0052	0.0012	0.0051	0.0016	0.0131
42	<i>Memecylon celastrinum</i>	0.0050	0.0011	0.0051	0.0016	0.0128
43	<i>Cinnamomum iners</i>	0.0050	0.0011	0.0050	0.0016	0.0126
44	<i>Litsea cubeba</i>	0.0048	0.0011	0.0042	0.0014	0.0115
45	<i>Mussaenda sanderiana</i>	0.0041	0.0009	0.0051	0.0014	0.0115
46	<i>Turpintia cochinchinensis</i>	0.0037	0.0009	0.0028	0.0010	0.0085
47	<i>Vernonia volkameriifolia</i>	0.0031	0.0007	0.0028	0.0009	0.0075
48	<i>Diospyros glandulosa</i>	0.0028	0.0006	0.0030	0.0009	0.0073
49	<i>Euodia roxburghiana</i>	0.0026	0.0005	0.0037	0.0010	0.0078
50	<i>Melastoma sanguineum</i>	0.0023	0.0005	0.0024	0.0007	0.0060
51	<i>Milletia pachycarpa</i>	0.0022	0.0005	0.0027	0.0008	0.0062
52	<i>Ternstroemia gymnanthera</i>	0.0019	0.0005	0.0015	0.0005	0.0043
53	<i>Rhus javanica</i>	0.0016	0.0004	0.0018	0.0005	0.0043
54	<i>Glochidion arborescens</i>	0.0015	0.0003	0.0015	0.0005	0.0039
55	<i>Albizia chinensis</i>	0.0014	0.0003	0.0017	0.0005	0.0039
56	<i>Lindera metcalftiana</i>	0.0012	0.0003	0.0014	0.0004	0.0033
57	<i>Canthium sp.</i>	0.0011	0.0003	0.0010	0.0003	0.0027
58	<i>Kydia calycina</i>	0.0011	0.0003	0.0010	0.0003	0.0027
59	<i>Engelhardtia serrata</i>	0.0010	0.0002	0.0009	0.0003	0.0024
60	<i>Acacia megaladena</i>	0.0008	0.0002	0.0010	0.0003	0.0022
61	<i>Magnolia henryi</i>	0.0008	0.0002	0.0008	0.0002	0.0020
62	<i>Artocarpus lacucha</i>	0.0008	0.0002	0.0008	0.0002	0.0020
63	<i>Viburnum sambucinum</i>	0.0008	0.0002	0.0008	0.0002	0.0020
64	<i>Acacia pennata</i>	0.0007	0.0001	0.0010	0.0003	0.0021
65	<i>Syzygium sp.</i>	0.0006	0.0001	0.0008	0.0002	0.0018
66	<i>Antidesma acidum</i>	0.0007	0.0001	0.0007	0.0002	0.0017
67	<i>Craibiodendron stellatum</i>	0.0005	0.0001	0.0006	0.0002	0.0014
68	<i>Antiaris toxicaria</i>	0.0003	0.0001	0.0004	0.0001	0.0009
69	<i>Gluta obovata</i>	0.0003	0.0001	0.0004	0.0001	0.0008
70	<i>Ficus callosa</i>	0.0002	0.0000	0.0003	0.0001	0.0006
	Total	122	43	21	37	223

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>28 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	16.1310	7.4992	3.3236	24.6853	51.6391
2	<i>Schima wallichii</i>	24.8520	8.9681	3.3061	3.1051	40.2313
3	<i>Engelhardtia spicata</i>	2.9287	1.0054	0.4957	0.4061	4.8359
4	<i>Glochidion sphaerogynum</i>	2.6121	0.8853	0.4697	0.3720	4.3391
5	<i>Markhamia stipulata</i>	1.4473	0.4777	0.2800	0.2150	2.4200
6	<i>Castanopsis diversifolia</i>	1.3901	0.4734	0.2450	0.1960	2.3047
7	<i>Entada rheedii</i>	1.2127	0.4366	0.1606	0.1517	1.9616
8	<i>Colona flagrocarpa</i>	0.9353	0.3311	0.1337	0.1210	1.5211
9	<i>Stereospermum neuranthum</i>	0.6089	0.2026	0.1155	0.0893	1.0163
10	<i>Castanopsis purpurea</i>	0.6004	0.2068	0.0962	0.0819	0.9853
11	<i>Erythrina subumbrans</i>	0.2265	0.0697	0.0608	0.0389	0.3958
12	<i>Gmelina arborea</i>	0.2066	0.0619	0.0634	0.0375	0.3694
13	<i>Dalbergia foliacea</i>	0.1601	0.0472	0.0513	0.0298	0.2884
14	<i>Vaccinium sprengelii</i>	0.1623	0.0515	0.0371	0.0261	0.2770
15	<i>Dalbergia assamica</i>	0.1287	0.0386	0.0382	0.0231	0.2286
16	<i>Phyllanthus emblica</i>	0.0980	0.0286	0.0332	0.0187	0.1784
17	<i>Albizia odoratissima</i>	0.0958	0.0293	0.0258	0.0165	0.1674
18	<i>Syzygium albiflorum</i>	0.0896	0.0270	0.0262	0.0160	0.1588
19	<i>Litsea cubeba</i>	0.0629	0.0155	0.0434	0.0166	0.1385
20	<i>Ficus ribes</i>	0.0597	0.0165	0.0265	0.0128	0.1155
21	<i>Diospyros glandulosa</i>	0.0259	0.0066	0.0162	0.0065	0.0551
22	<i>Musa acuminata</i>	0.0162	0.0045	0.0069	0.0035	0.0311
23	<i>Archidendron clypearia</i>	0.0139	0.0036	0.0076	0.0033	0.0285
24	<i>Phoebe paniculata</i>	0.0105	0.0025	0.0084	0.0030	0.0245
25	<i>Wendlandia tinctoria</i>	0.0075	0.0018	0.0062	0.0022	0.0176
26	<i>Vernonia volkamerifolia</i>	0.0074	0.0018	0.0056	0.0020	0.0168
27	<i>Horsfieldia tomentosa</i>	0.0049	0.0013	0.0029	0.0012	0.0104
28	<i>Rhus javanica</i>	0.0043	0.0010	0.0032	0.0012	0.0097
29	<i>Phoebe lanceolata</i>	0.0029	0.0007	0.0024	0.0008	0.0067
30	<i>Acacia megaladena</i>	0.0012	0.0003	0.0010	0.0003	0.0028
31	<i>Eriolaena candollei</i>	0.0011	0.0003	0.0010	0.0003	0.0027
32	<i>Melastoma sanguineum</i>	0.0011	0.0002	0.0012	0.0003	0.0028
33	<i>Litsea monopetala</i>	0.0008	0.0002	0.0008	0.0002	0.0020
34	<i>Syzygium cumini</i>	0.0008	0.0002	0.0008	0.0002	0.0020
35	<i>Aporosa villosa</i>	0.0008	0.0002	0.0008	0.0002	0.0020
	Total	54	21	9	30	114

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>29 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	9.0103	3.6445	1.8627	14.4525	28.9700
2	<i>Castanopsis purpurea</i>	12.5655	4.4781	1.9121	1.6426	20.5984
3	<i>Schima wallichii</i>	10.6784	3.8585	1.4529	1.3387	17.3285
4	<i>Helicia terminalis</i>	7.4625	2.5144	1.3515	1.0704	12.3988
5	<i>Anneslea fragrans</i>	4.6646	1.7801	0.4892	0.5226	7.4565
6	<i>Quercus vestita</i>	2.1363	0.7410	0.3376	0.2886	3.5035
7	<i>Castanopsis diversifolia</i>	1.8685	0.6788	0.2535	0.2326	3.0334
8	<i>Helicia nilagirica</i>	1.6531	0.5751	0.2682	0.2241	2.7205
9	<i>Toona ciliata</i>	1.3440	0.4667	0.2089	0.1806	2.2001
10	<i>Myrica esculenta</i>	1.2116	0.3964	0.2495	0.1841	2.0417
11	<i>Engelhardtia spicata</i>	1.0155	0.3532	0.1620	0.1371	1.6678
12	<i>Wendlandia tinctoria</i>	0.6860	0.1950	0.2546	0.1369	1.2725
13	<i>Eriolaena candollei</i>	0.6800	0.2297	0.1207	0.0968	1.1272
14	<i>Erythrina subumbrans</i>	0.6601	0.2287	0.1031	0.0890	1.0810
15	<i>Cycas pectinata</i>	0.4040	0.1266	0.0972	0.0663	0.6941
16	<i>Acacia megaladena</i>	0.2563	0.0813	0.0595	0.0412	0.4383
17	<i>Camellia pleurocarpa</i>	0.2084	0.0658	0.0496	0.0339	0.3578
18	<i>Phyllanthus emblica</i>	0.1976	0.0601	0.0565	0.0348	0.3490
19	<i>Temstroemia gymnanthera</i>	0.1833	0.0586	0.0406	0.0290	0.3114
20	<i>Tadehagi triquetrum</i>	0.1276	0.0391	0.0345	0.0220	0.2233
21	<i>Lithocarpus elegans</i>	0.0858	0.0261	0.0233	0.0149	0.1501
22	<i>Dalbergia foliacea</i>	0.0699	0.0210	0.0201	0.0125	0.1235
23	<i>Morinda tomentosa</i>	0.0531	0.0157	0.0165	0.0098	0.0951
24	<i>Pterospermum acerifolium</i>	0.0470	0.0138	0.0151	0.0088	0.0846
25	<i>Glochidion sphaerogynum</i>	0.0332	0.0095	0.0117	0.0065	0.0609
26	<i>Blumea balsamifera</i>	0.0246	0.0062	0.0152	0.0062	0.0523
27	<i>Glochidion hirsutum</i>	0.0237	0.0067	0.0092	0.0048	0.0444
28	<i>Catunaregam tomentosa</i>	0.0145	0.0038	0.0076	0.0034	0.0293
29	<i>Antidesma acidum</i>	0.0143	0.0039	0.0063	0.0031	0.0276
30	<i>Melastoma sanguineum</i>	0.0074	0.0017	0.0062	0.0021	0.0174
31	<i>Litsea cubeba</i>	0.0012	0.0003	0.0010	0.0003	0.0028
32	<i>Syzygium cumini</i>	0.0004	0.0001	0.0005	0.0001	0.0011
	Total	57	21	9	21	108

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>30 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	15.9789	7.2864	3.2939	24.6254	51.1845
2	<i>Castanopsis diversifolia</i>	27.5896	11.3488	2.2979	2.7237	43.9600
3	<i>Schima wallichii</i>	25.8787	8.9403	4.1962	3.5311	42.5464
4	<i>Castanopsis purpurea</i>	8.5094	3.0732	1.1205	1.0598	13.7628
5	<i>Dalbergia assamica</i>	6.5276	2.2824	1.0286	0.8745	10.7131
6	<i>Engelhardtia spicata</i>	5.7904	1.9962	0.9585	0.7956	9.5407
7	<i>Lithocarpus elegans</i>	4.7746	1.5862	0.9090	0.7023	7.9720
8	<i>Canarium subulatum</i>	0.9666	0.3430	0.1361	0.1244	1.5701
9	<i>Dolichandrone serrulata</i>	0.8756	0.2959	0.1552	0.1245	1.4513
10	<i>Myrica esculenta</i>	0.8709	0.2942	0.1518	0.1234	1.4404
11	<i>Sapindus rarak</i>	0.6914	0.2402	0.1067	0.0927	1.1310
12	<i>Albizia odoratissima</i>	0.5619	0.1863	0.1102	0.0834	0.9418
13	<i>Symplocos sp.</i>	0.5169	0.1763	0.0863	0.0719	0.8514
14	<i>Garuga pinnata</i>	0.4893	0.1663	0.0829	0.0685	0.8070
15	<i>Elaeocarpus sphaericus</i>	0.3833	0.1241	0.0811	0.0592	0.6478
16	<i>Wendlandia tinctoria</i>	0.2733	0.0812	0.0841	0.0500	0.4887
17	<i>Gluta obovata</i>	0.2575	0.0790	0.0685	0.0442	0.4493
18	<i>Blumea balsamifera</i>	0.2436	0.0793	0.0499	0.0372	0.4100
19	<i>Markhamia stipulata</i>	0.2332	0.0735	0.0562	0.0381	0.4010
20	<i>Colona flagrocarpa</i>	0.1688	0.0516	0.0456	0.0292	0.2952
21	<i>Gluta usitata</i>	0.1547	0.0466	0.0448	0.0276	0.2738
22	<i>Engelhardtia serrata</i>	0.1052	0.0324	0.0271	0.0178	0.1825
23	<i>Gmelina arborea</i>	0.0894	0.0268	0.0265	0.0161	0.1588
24	<i>Aporosa villosa</i>	0.0724	0.0218	0.0206	0.0128	0.1277
25	<i>Magnolia henryi</i>	0.0680	0.0197	0.0231	0.0130	0.1239
26	<i>Castanopsis acuminatissima</i>	0.0423	0.0123	0.0140	0.0080	0.0766
27	<i>Vaccinium sprengelii</i>	0.0392	0.0114	0.0132	0.0075	0.0713
28	<i>Erythrina subumbrans</i>	0.0385	0.0112	0.0130	0.0074	0.0701
29	<i>Acacia megaladena</i>	0.0352	0.0101	0.0122	0.0068	0.0644
30	<i>Symplocos racemosa</i>	0.0217	0.0059	0.0101	0.0048	0.0426
31	<i>Phyllanthus emblica</i>	0.0195	0.0051	0.0103	0.0046	0.0394
32	<i>Syzygium albiflorum</i>	0.0166	0.0045	0.0076	0.0036	0.0322
33	<i>Morinda tomentosa</i>	0.0053	0.0014	0.0031	0.0013	0.0110
34	<i>Phoebe paniculata</i>	0.0034	0.0009	0.0022	0.0009	0.0074
35	<i>Camellia pleurocarpa</i>	0.0019	0.0005	0.0015	0.0005	0.0043
36	<i>Lithocarpus sootepensis</i>	0.0008	0.0002	0.0008	0.0002	0.0020
	Total	102	39	15	35	192

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>31 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	9.2319	4.3086	1.9020	14.1200	29.5625
2	<i>Castanopsis diversifolia</i>	49.4750	18.3371	6.1526	5.9372	79.9018
3	<i>Schima wallichii</i>	38.3561	13.8610	5.2971	4.8293	62.3435
4	<i>Castanopsis acuminatissima</i>	16.6430	6.1876	1.9630	1.9649	26.7584
5	<i>Syzygium albiflorum</i>	9.7589	3.9361	0.8560	0.9916	15.5426
6	<i>Wendlandia tinctoria</i>	8.7178	2.7105	2.2288	1.4644	15.1215
7	<i>Myrica esculenta</i>	3.9012	1.3459	0.6321	0.5330	6.4122
8	<i>Olea salicifolia</i>	3.8370	1.4219	0.4484	0.4534	6.1607
9	<i>Syzygium cumini</i>	3.8418	1.4824	0.3845	0.4208	6.1295
10	<i>Helicia terminalis</i>	3.5925	1.1972	0.6859	0.5273	6.0029
11	<i>Elaeocarpus sphaericus</i>	2.1560	0.7279	0.3905	0.3087	3.5830
12	<i>Ternstroemia gymnanthera</i>	2.0495	0.7221	0.3131	0.2707	3.3553
13	<i>Dalbergia cultrata</i>	1.8950	0.6717	0.2682	0.2443	3.0792
14	<i>Canarium subulatum</i>	1.7057	0.6006	0.2485	0.2229	2.7777
15	<i>Docynia indica</i>	1.0149	0.3397	0.1858	0.1468	1.6873
16	<i>Symplocos sp.</i>	0.8467	0.2749	0.1766	0.1300	1.4283
17	<i>Phoebe paniculata</i>	0.8354	0.2808	0.1503	0.1198	1.3864
18	<i>Anneslea fragrans</i>	0.8097	0.2584	0.1817	0.1286	1.3785
19	<i>Phyllanthus emblica</i>	0.5908	0.1789	0.1676	0.1043	1.0416
20	<i>Rapanea portेरiana</i>	0.4710	0.1443	0.1268	0.0812	0.8233
21	<i>Eurya nitida</i>	0.4248	0.1382	0.0879	0.0650	0.7159
22	<i>Gluta obovata</i>	0.4066	0.1310	0.0911	0.0639	0.6927
23	<i>Engelhardtia spicata</i>	0.2761	0.0836	0.0792	0.0488	0.4877
24	<i>Diospyros glandulosa</i>	0.2319	0.0733	0.0549	0.0376	0.3977
25	<i>Helicia nilagirica</i>	0.2252	0.0708	0.0552	0.0370	0.3883
26	<i>Gochmatia decora</i>	0.2115	0.0682	0.0450	0.0329	0.3576
27	<i>Styrax benzoides</i>	0.1532	0.0484	0.0356	0.0248	0.2620
28	<i>Albizia odoratissima</i>	0.1495	0.0472	0.0350	0.0242	0.2559
29	<i>Betula alnoides</i>	0.1457	0.0459	0.0343	0.0237	0.2496
30	<i>Glochidion sphaerogynum</i>	0.1104	0.0342	0.0280	0.0186	0.1912
31	<i>Memecylon celastrinum</i>	0.1046	0.0302	0.0372	0.0204	0.1923
32	<i>Lithocarpus thomsonii</i>	0.0858	0.0261	0.0233	0.0149	0.1501
33	<i>Ardisia attenuata</i>	0.0713	0.0215	0.0204	0.0127	0.1258
34	<i>Turpinia pomifera</i>	0.0418	0.0122	0.0138	0.0079	0.0757
35	<i>Eriolaena candollei</i>	0.0094	0.0025	0.0047	0.0021	0.0187
36	<i>Ficus tinctoria</i>	0.0067	0.0017	0.0037	0.0016	0.0137
37	<i>Ficus maclellandii</i>	0.0010	0.0002	0.0009	0.0003	0.0023
38	<i>Acacia megaladena</i>	0.0008	0.0002	0.0008	0.0002	0.0020
39	<i>Erythrina subumbrans</i>	0.0003	0.0001	0.0004	0.0001	0.0008
	Total	162	60	23	33	279

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>32 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	18.1357	8.0800	3.7403	28.1297	58.0856
2	<i>Schima wallichii</i>	45.6103	16.9961	5.4198	5.3827	73.4090
3	<i>Syzygium cumini</i>	17.3494	7.3877	1.1139	1.5601	27.4111
4	<i>Castanopsis acuminatissima</i>	12.9086	4.7430	1.5700	1.5523	20.7740
5	<i>Phoebe paniculata</i>	5.1219	1.9780	0.5145	0.5614	8.1758
6	<i>Xanthophyllum virens</i>	3.7576	1.3670	0.4920	0.4643	6.0808
7	<i>Elaeocarpus sphaericus</i>	3.0089	1.0365	0.4879	0.4117	4.9450
8	<i>Magnolia henryi</i>	2.9296	1.1053	0.3237	0.3357	4.6942
9	<i>Castanopsis tribuloides</i>	2.3827	0.8570	0.3168	0.2986	3.8551
10	<i>Knema erratica</i>	2.0813	0.7753	0.2379	0.2435	3.3380
11	<i>Betula alnoides</i>	1.7414	0.6414	0.2090	0.2083	2.8000
12	<i>Albizia chinensis</i>	1.4299	0.5201	0.1810	0.1752	2.3063
13	<i>Engelhardtia spicata</i>	1.0709	0.3662	0.1770	0.1482	1.7623
14	<i>Erythrina subumbrans</i>	0.9635	0.3419	0.1358	0.1240	1.5652
15	<i>Myrica esculenta</i>	0.6852	0.2273	0.1307	0.1009	1.1442
16	<i>Glochidion sphaerogynum</i>	0.5614	0.1883	0.1050	0.0814	0.9362
17	<i>Symplocos sp.</i>	0.5271	0.1800	0.0875	0.0731	0.8678
18	<i>Anneslea fragrans</i>	0.5029	0.1713	0.0846	0.0702	0.8289
19	<i>Styrax benzoides</i>	0.3971	0.1258	0.0924	0.0641	0.6795
20	<i>Luvunga scandens</i>	0.2843	0.0934	0.0559	0.0426	0.4761
21	<i>Musa acuminata</i>	0.1794	0.0542	0.0515	0.0318	0.3170
22	<i>Syzygium sp.</i>	0.1779	0.0558	0.0452	0.0295	0.3085
23	<i>Gmelina arborea</i>	0.0858	0.0261	0.0233	0.0149	0.1501
24	<i>Eurya nitida</i>	0.0818	0.0248	0.0226	0.0143	0.1435
25	<i>Syzygium albiflorum</i>	0.0459	0.0121	0.0240	0.0107	0.0927
26	<i>Memecylon celastrinum</i>	0.0429	0.0125	0.0141	0.0081	0.0777
27	<i>Wendlandia tinctoria</i>	0.0342	0.0092	0.0161	0.0076	0.0671
28	<i>Phyllanthus emblica</i>	0.0226	0.0061	0.0105	0.0050	0.0442
29	<i>Olea salicifolia</i>	0.0168	0.0046	0.0071	0.0036	0.0321
30	<i>Syzygium sp.</i>	0.0143	0.0039	0.0064	0.0031	0.0277
31	<i>Milletia pachycarpa</i>	0.0080	0.0020	0.0050	0.0020	0.0171
32	<i>Litsea cubeba</i>	0.0038	0.0008	0.0047	0.0013	0.0106
33	<i>Albizia odoratissima</i>	0.0022	0.0005	0.0016	0.0006	0.0049
34	<i>Trichilla connaroides</i>	0.0008	0.0002	0.0008	0.0002	0.0020
	Total	122	47	16	40	225

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	33 year-old pine plantation					
1	<i>Pinus kesiya</i>	26.8896	12.7329	5.5377	40.8794	86.0396
2	<i>Musa acuminata</i>	4.1967	1.1985	1.5397	0.8319	7.7668
3	<i>Wendlandia tinctoria</i>	3.4173	1.3114	0.3490	0.3780	5.4556
4	<i>Cinnamomum iners</i>	2.5154	0.8843	0.3708	0.3300	4.1004
5	<i>Albizia chinensis</i>	1.4341	0.5217	0.1814	0.1757	2.3129
6	<i>Magnolia henryi</i>	1.2680	0.4566	0.1705	0.1590	2.0541
7	<i>Mallotus barbatus</i>	0.5592	0.1777	0.1408	0.0916	0.9693
8	<i>Dalbergia oliveri</i>	0.1479	0.0466	0.0347	0.0240	0.2532
9	<i>Litsea cubeba</i>	0.0829	0.0213	0.0487	0.0203	0.1731
10	<i>Glochidion acuminatum</i>	0.0864	0.0240	0.0364	0.0181	0.1649
11	<i>Ilex umbellulata</i>	0.0767	0.0232	0.0215	0.0135	0.1350
12	<i>Melastoma sanguineum</i>	0.0408	0.0105	0.0244	0.0101	0.0858
13	<i>Grewia laevigata</i>	0.0345	0.0098	0.0131	0.0069	0.0643
14	<i>Ficus ribes</i>	0.0300	0.0077	0.0181	0.0074	0.0631
15	<i>Tadehagi triquetrum</i>	0.0274	0.0068	0.0186	0.0072	0.0600
16	<i>Artocarpus lacucha</i>	0.0275	0.0069	0.0183	0.0071	0.0598
17	<i>Laportea bulbifera</i>	0.0268	0.0070	0.0147	0.0064	0.0549
18	<i>Sapindus rarak</i>	0.0243	0.0062	0.0144	0.0060	0.0509
19	<i>Saurauia napaulensis</i>	0.0212	0.0049	0.0191	0.0063	0.0515
20	<i>Archidendron clypearia</i>	0.0203	0.0053	0.0112	0.0049	0.0416
21	<i>Horsfieldia tomentosa</i>	0.0202	0.0054	0.0097	0.0045	0.0398
22	<i>Phoebe cathia</i>	0.0189	0.0051	0.0089	0.0042	0.0372
23	<i>Ficus sp.</i>	0.0175	0.0046	0.0090	0.0040	0.0351
24	<i>Lindera metcalfiana</i>	0.0133	0.0033	0.0091	0.0035	0.0291
25	<i>Mussaenda sanderiana</i>	0.0117	0.0028	0.0089	0.0032	0.0267
26	<i>Milletia pachycarpa</i>	0.0122	0.0032	0.0067	0.0029	0.0250
27	<i>Alangium chinensis</i>	0.0120	0.0031	0.0065	0.0029	0.0246
28	<i>Neolitsea zeylanica</i>	0.0097	0.0023	0.0077	0.0027	0.0224
29	<i>Myrica esculenta</i>	0.0064	0.0016	0.0045	0.0017	0.0142
30	<i>Trevesia palmata</i>	0.0064	0.0016	0.0039	0.0016	0.0135
31	<i>Litsea monopetala</i>	0.0057	0.0015	0.0032	0.0014	0.0118
32	<i>Aegialitis rotundifolia</i>	0.0055	0.0014	0.0038	0.0015	0.0122
33	<i>Nyssa javanica</i>	0.0045	0.0010	0.0053	0.0015	0.0123
34	<i>Schima wallichii</i>	0.0046	0.0011	0.0037	0.0013	0.0106
35	<i>Ardisia attenuata</i>	0.0046	0.0011	0.0033	0.0012	0.0102
36	<i>Bridelia retusa</i>	0.0040	0.0010	0.0032	0.0011	0.0093
37	<i>Sorbus granulosa</i>	0.0042	0.0010	0.0026	0.0011	0.0088
38	<i>Phoebe paniculata</i>	0.0039	0.0009	0.0031	0.0011	0.0090
39	<i>Ampelocissus martinii</i>	0.0035	0.0008	0.0030	0.0010	0.0083
40	<i>Rauvolfia cambodiana</i>	0.0021	0.0005	0.0023	0.0007	0.0056
41	<i>Desmodium megaphyllum</i>	0.0016	0.0003	0.0020	0.0005	0.0044
42	<i>Eurya nitida</i>	0.0016	0.0004	0.0013	0.0005	0.0038
43	<i>Tetrastigma quadrangulatum</i>	0.0015	0.0004	0.0012	0.0004	0.0035
44	<i>Canthium berberidifolium</i>	0.0014	0.0003	0.0015	0.0005	0.0037
45	<i>Rubus rugosus</i>	0.0013	0.0003	0.0012	0.0004	0.0033
46	<i>Terminalia chebula</i>	0.0011	0.0003	0.0010	0.0003	0.0027
47	<i>Macaranga kurzii</i>	0.0008	0.0002	0.0008	0.0002	0.0019
48	<i>Glochidion hirsutum</i>	0.0005	0.0001	0.0006	0.0002	0.0014
49	<i>Turpinia cochinchinensis</i>	0.0005	0.0001	0.0006	0.0002	0.0014
50	<i>Ficus hispida</i>	0.0005	0.0001	0.0005	0.0002	0.0012
51	<i>Gaultheria notabilis</i>	0.0003	0.0001	0.0004	0.0001	0.0008
52	<i>Stereospermum neuranthum</i>	0.0003	0.0001	0.0004	0.0001	0.0008
53	<i>Fraxinus floribunda</i>	0.0002	0.0000	0.0003	0.0001	0.0007
	Total	41	18	9	43	110

Table 3-9 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
	<u>34 year-old pine plantation</u>					
1	<i>Pinus kesiya</i>	12.3445	5.5969	2.5452	19.0796	39.5660
2	<i>Castanopsis purpurea</i>	54.5032	19.4657	7.7864	6.9972	88.7526
3	<i>Quercus vestita</i>	24.7941	9.2922	2.8321	2.8823	39.8007
4	<i>Schima wallichii</i>	17.8626	6.8140	1.8859	2.0044	28.5670
5	<i>Quercus brandisiana</i>	12.0439	4.2678	1.7870	1.5716	19.6702
6	<i>Syzygium cumini</i>	5.8738	2.3359	0.5063	0.6041	9.3201
7	<i>Wendlandia tinctoria</i>	2.9786	0.9174	0.7896	0.5089	5.1946
8	<i>Dalbergia assamica</i>	2.7769	0.9394	0.5272	0.4009	4.6446
9	<i>Viburnum sambucinum</i>	1.5275	0.5520	0.2041	0.1907	2.4743
10	<i>Aporosa villosa</i>	1.2428	0.3821	0.3360	0.2137	2.1745
11	<i>Glochidion sphaerogynum</i>	1.0066	0.3284	0.2181	0.1554	1.7084
12	<i>Craibiodendron stellatum</i>	0.7657	0.2454	0.1781	0.1221	1.3114
13	<i>Lithocarpus elegans</i>	0.7176	0.2443	0.1259	0.1011	1.1889
14	<i>Albizia odoratissima</i>	0.6662	0.2092	0.1595	0.1091	1.1440
15	<i>Phyllanthus emblica</i>	0.5304	0.1458	0.2335	0.1138	1.0235
16	<i>Cycas pectinata</i>	0.4504	0.1422	0.1073	0.0733	0.7732
17	<i>Lithocarpus sootepensis</i>	0.4373	0.1476	0.0764	0.0621	0.7234
18	<i>Stereospermum colias</i>	0.3916	0.1313	0.0705	0.0564	0.6498
19	<i>Vaccinium sprengelii</i>	0.2768	0.0889	0.0632	0.0438	0.4728
20	<i>Glochidion hirsutum</i>	0.2655	0.0782	0.0848	0.0494	0.4780
21	<i>Eriolaena candollei</i>	0.2597	0.0782	0.0758	0.0464	0.4601
22	<i>Horsfieldia tomentosa</i>	0.1081	0.0334	0.0276	0.0182	0.1873
23	<i>Albizia chinensis</i>	0.0770	0.0233	0.0216	0.0136	0.1355
24	<i>Canarium subulatum</i>	0.0705	0.0212	0.0202	0.0125	0.1244
25	<i>Anneslea fragrans</i>	0.0585	0.0167	0.0218	0.0117	0.1087
26	<i>Pavetta tomentosa</i>	0.0482	0.0138	0.0179	0.0096	0.0895
27	<i>Helicia nilagirica</i>	0.0389	0.0110	0.0149	0.0079	0.0726
28	<i>Styrax benzoides</i>	0.0375	0.0107	0.0137	0.0074	0.0693
29	<i>Diospyros glandulosa</i>	0.0332	0.0095	0.0117	0.0065	0.0609
30	<i>Gluta usitata</i>	0.0332	0.0095	0.0117	0.0065	0.0609
31	<i>Antidesma acidum</i>	0.0275	0.0073	0.0139	0.0063	0.0550
32	<i>Dalbergia cultrata</i>	0.0243	0.0068	0.0093	0.0049	0.0453
33	<i>Phoebe paniculata</i>	0.0201	0.0053	0.0107	0.0047	0.0408
34	<i>Canthium sp.</i>	0.0196	0.0050	0.0113	0.0048	0.0408
35	<i>Engelhardtia spicata</i>	0.0178	0.0046	0.0096	0.0042	0.0362
36	<i>Protium serratum</i>	0.0087	0.0021	0.0071	0.0025	0.0204
37	<i>Dillenia aurea</i>	0.0078	0.0020	0.0046	0.0019	0.0164
38	<i>Syzygium albiflorum</i>	0.0065	0.0016	0.0051	0.0018	0.0150
39	<i>Rhus javanica</i>	0.0034	0.0008	0.0030	0.0010	0.0083
40	<i>Tristania rufescens</i>	0.0026	0.0006	0.0018	0.0007	0.0058
41	<i>Symplocos racemosa</i>	0.0024	0.0006	0.0017	0.0006	0.0053
42	<i>Schoepfia fragrans</i>	0.0022	0.0005	0.0016	0.0006	0.0049
43	<i>Litsea cubeba</i>	0.0022	0.0005	0.0016	0.0006	0.0049
44	<i>Maesa permollis</i>	0.0016	0.0004	0.0017	0.0005	0.0042
45	<i>Blumea balsamifera</i>	0.0016	0.0004	0.0013	0.0005	0.0038
46	<i>Castanopsis diversifolia</i>	0.0011	0.0003	0.0010	0.0003	0.0027
47	<i>Eurya nitida</i>	0.0008	0.0002	0.0008	0.0002	0.0020
48	<i>Celastrus paniculata</i>	0.0008	0.0002	0.0008	0.0002	0.0019
49	<i>Tadehagi triquetrum</i>	0.0006	0.0001	0.0006	0.0002	0.0016
50	<i>Engelhardtia serrata</i>	0.0005	0.0001	0.0006	0.0002	0.0014
	Total	142	53	21	36	251

3.3.2 Stored Carbon and Nutrients in Fragmented Forests

Total amounts of carbon and other nutrients as well as their allocation in different tree organs in fifteen fragmented forests were shown in Table 3-10. The stem component had the highest allocation, and followed by root, branch and leaf.

Carbon:

Total carbon storages in biomass of tree species in fifteen fragmented forests in the watershed varied between 58-125 Mg.ha⁻¹. Same as biomass, the lowest amount was found in FF10, and it was the highest in FF1. The stored carbon in forest biomass depended on the forest condition. The good forest could accumulate the higher biomass carbon than the deteriorated forest.

In Table 3-11, the amount for overall fragmented forests was 99,337 kg.ha⁻¹. The carbon stored in pine trees was 32,696 kg.ha⁻¹, and the remaining 66,642 kg.ha⁻¹ stored in broad-leaved trees species. Among 102 species of broad-leaved species, *C. acuminatissima* had the highest storage, 12,671 kg.ha⁻¹, and followed by *S. wallichii*, *C. diversifolia*, *Q. brandisiana*, *T. rufencens*, *C. purpurea*, *L. elegans* and *E. spicata*. The amounts in these seven tree species were 2,729-7,118 kg.ha⁻¹. About 1-2 Mg.ha⁻¹ was allocated in leaf component, and this will be recycling to forest floor through leaf litterfall.

Nitrogen:

The amounts of nitrogen accumulation in biomass of tree species in the fifteen fragmented forests varied between 643-1,384 kg.ha⁻¹. The amount for overall fragmented forests was 1,101 kg.ha⁻¹ (Table 3-12). The nitrogen accumulated in pine trees was 359.26 kg.ha⁻¹, and the remaining 741.74 kg.ha⁻¹ stored in broad-leaved trees species. Among broad-leaved species, *C. acuminatissima* had the highest storage, 140.24 kg.ha⁻¹, and followed by *S. wallichii*, *C. diversifolia*, *Q. brandisiana*, *T. rufencens*, *C. purpurea*, *L. elegans* and *E. spicata*. The amounts in these seven tree species were 30.3-78.99 kg.ha⁻¹. The nitrogen amounts in leaf compartment, 33-68 kg.ha⁻¹ will be recycling to forest floor.

Phosphorus:

The phosphorus amounts in biomass of tree species in the fifteen fragmented forests varied between 90-195 kg.ha⁻¹. In Table 3-13, the amount for overall fragmented forests was 154 kg.ha⁻¹. The phosphorus storage in pine trees was the highest, 51.38 kg.ha⁻¹, and the remaining 103.62 kg.ha⁻¹ were accumulated in broad-leaved species. Among the broad-leaved species, *C. acuminatissima* had the highest amount of 19.68 kg.ha⁻¹. The lower amounts of biomass phosphorus (4.22-19.68 kg.ha⁻¹) were observed for *S. wallichii*, *C. diversifolia*, *Q. brandisiana*, *T. rufencens*, *C. purpurea*, *L. elegans* and *E. spicata*. The recycling amounts of phosphorus through leaf litterfall were 3-6 kg.ha⁻¹.

Potassium:

The biomass potassium of tree species in the fifteen fragmented forests varied between 440-948 kg.ha⁻¹. In Table 3-14, the amount for overall fragmented forests was 753 kg.ha⁻¹. The potassium stored in pine trees was the highest, 246.95 kg.ha⁻¹. The remaining amount of 506.02 kg.ha⁻¹ was accumulated in broad-leaved species. Among these broad-leaved species, *C. acuminatissima* could store the highest amount, 95.95 kg.ha⁻¹. The trees having the lower amounts (20.69-53.96 kg.ha⁻¹) were *S. wallichii*, *C. diversifolia*, *Q. brandisiana*, *T. rufencens*, *C. purpurea*, *L. elegans* and *E. spicata*. The potassium amounts in leaf compartment (30-47 kg.ha⁻¹) will be recycling to forest floor

Calcium:

The biomass calcium amounts of tree species in the fifteen fragmented forests varied between 935-2,015 kg.ha⁻¹. In Table 3-15, the amount for overall fragmented forests was 1,602 kg.ha⁻¹. The calcium accumulated in pine trees was the highest, 524.12 kg.ha⁻¹. The remaining amount of 1,077.88 kg.ha⁻¹ was accumulated in broad-leaved species, and *C. acuminatissima* could accumulate the highest amount, 402.16 kg.ha⁻¹. The trees having the lower amounts (44.07-114.89 kg.ha⁻¹) were *S. wallichii*, *C. diversifolia*, *Q. brandisiana*, *T. rufencens*, *C. purpurea*, *L. elegans* and *E. spicata*. The calcium amounts of 31-64 kg.ha⁻¹ in leaf compartment will be recycling to the forest floor

Magnesium:

The magnesium amounts in biomass of tree species in the fifteen fragmented forests varied between 210-451 kg.ha⁻¹. In Table 3-16, the amount for overall fragmented forests was 359 kg.ha⁻¹. The magnesium storage in pine trees was the highest, 117.06 kg.ha⁻¹. The remaining 241.94 kg.ha⁻¹ was stored in broad-leaved species, and *C. acuminatissima* had the highest amount, 45.69 kg.ha⁻¹. The trees having the lower amounts (9.88-25.75 kg.ha⁻¹) were *S. wallichii*, *C. diversifolia*, *Q. brandisiana*, *T. rufencens*, *C. purpurea*, *L. elegans* and *E. spicata*. The magnesium amounts of 18-38 kg.ha⁻¹ in leaf component will be recycling to the soil.

Some amounts of carbon and other nutrients in stem and branch compartments of tree species may be recycling to the forest floor and soil as above-ground litterfall. Some amounts of dead root of tree species are contributed to their recycling into soil as below-ground litterfall.

Table 3-10 Variations of stored carbon and nutrients in biomass of tree species in fifteen fragmented forests

Nutrient	Fragmented forests															
	FF1	FF2	FF3	FF4	FF5	FF6	FF7	FF8	FF9	FF10	FF11	FF12	FF13	FF14	FF15	Average
1 Carbon (Mg.ha ⁻¹)	125	84	118	113	101	98	81	88	95	58	102	120	117	98	93	99
C _S	82	54	77	74	66	64	53	58	62	38	66	78	77	64	61	65
C _B	25	16	23	23	20	20	16	18	19	11	19	24	24	19	18	20
C _L	2	2	2	2	2	1	1	1	1	1	2	2	2	2	1	2
C _R	16	12	16	14	14	12	11	11	12	8	14	16	15	13	12	13
2 Nitrogen (kg.ha ⁻¹)	1,384	937	1,312	1,247	1,122	1,079	899	975	1,051	643	1,135	1,326	1,293	1,083	1,026	1,101
N _S	870	579	817	787	701	681	562	612	660	401	703	829	815	675	643	689
N _B	274	172	248	251	217	219	174	193	210	124	210	256	261	207	200	214
N _L	62	53	68	53	55	45	44	45	47	33	63	65	55	55	48	53
N _R	178	133	179	157	149	134	119	126	134	86	159	177	162	146	135	145
3 Phosphorus (kg.ha ⁻¹)	195	129	182	176	157	153	126	137	148	90	157	185	183	151	144	154
P _S	131	87	123	119	106	103	85	92	100	61	106	125	123	102	97	104
P _B	52	33	47	47	41	41	33	36	40	23	40	48	49	39	38	40
P _L	5	4	6	4	4	4	4	4	4	3	5	5	5	4	4	4
P _R	7	5	7	6	6	5	4	5	5	3	6	7	6	6	5	5
4 Potassium (kg.ha ⁻¹)	948	638	896	855	767	740	615	668	720	440	774	907	886	740	702	753
K _S	608	404	570	549	489	476	392	427	461	280	491	579	569	471	449	481
K _B	207	130	188	190	164	165	132	145	158	93	159	193	197	156	151	162
K _L	43	37	47	37	38	31	30	31	33	23	43	45	38	38	33	36
K _R	91	68	91	80	76	68	61	64	68	44	81	90	82	74	69	74
5 Calcium (kg.ha ⁻¹)	2,015	1,360	1,907	1,817	1,632	1,573	1,308	1,419	1,531	935	1,649	1,930	1,883	1,574	1,493	1,602
Ca _S	1,248	830	1,171	1,128	1,005	977	806	878	947	575	1,008	1,189	1,168	968	922	988
Ca _B	414	260	375	379	327	331	263	291	317	187	318	387	394	312	301	324
Ca _L	58	50	64	50	52	42	41	42	45	31	59	61	52	52	45	50
Ca _R	295	220	297	260	248	223	197	209	223	143	264	293	269	242	224	240
6 Magnesium (kg.ha ⁻¹)	451	306	428	407	366	352	293	318	343	210	370	433	422	353	334	359
Mg _S	279	186	262	252	225	219	180	196	212	129	225	266	261	217	206	221
Mg _B	103	65	94	95	82	83	66	73	79	47	79	97	99	78	75	81
Mg _L	35	30	38	30	31	25	25	25	27	18	36	37	31	31	27	30
Mg _R	34	25	34	30	28	25	22	24	25	16	30	33	31	28	25	27

Table 3-11 Biomass carbon amounts of tree species in fragmented forests

No	Species	Carbon (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
1	<i>Pinus kesiya</i>	21,528.91	6,918.33	391.83	3,856.52	32,695.58
2	<i>Castanopsis acuminatissima</i>	8,291.85	2,513.45	195.97	1,670.18	12,671.44
3	<i>Schima wallichii</i>	4,643.62	1,385.55	119.59	969.16	7,117.92
4	<i>Castanopsis diversifolia</i>	3,867.85	1,214.04	80.20	731.01	5,893.10
5	<i>Quercus brandisiana</i>	3,005.53	908.74	72.04	608.55	4,594.86
6	<i>Tristania rufescens</i>	2,072.46	573.43	75.44	503.74	3,225.07
7	<i>Castanopsis purpurea</i>	2,028.82	611.35	49.47	413.99	3,103.62
8	<i>Lithocarpus elegans</i>	1,780.42	520.43	50.39	387.51	2,738.75
9	<i>Engelhardtia spicata</i>	1,779.93	527.81	46.56	374.81	2,729.11
10	<i>Ternstroemia gymnanthera</i>	1,531.35	436.58	47.67	348.96	2,364.56
11	<i>Helicia terminalis</i>	1,313.58	382.49	38.32	289.01	2,023.39
12	<i>Anneslea fragrans</i>	1,037.78	293.68	32.96	239.15	1,603.57
13	<i>Dalbergia cultrata</i>	996.67	290.72	28.33	217.32	1,533.05
14	<i>Wendlandia tinctoria</i>	961.42	246.98	46.08	267.71	1,522.19
15	<i>Quercus vestita</i>	829.09	235.79	26.62	190.72	1,282.22
16	<i>Quercus semiserrata</i>	788.81	242.43	17.71	154.84	1,203.80
17	<i>Castanopsis armata</i>	562.07	191.23	7.76	89.35	850.40
18	<i>Vaccinium sprengelii</i>	553.45	139.54	29.52	160.93	883.43
19	<i>Elaeocarpus stipularis</i>	519.28	168.24	9.02	91.26	787.80
20	<i>Lithocarpus fenestratus</i>	504.65	143.20	15.75	115.57	779.17
21	<i>Glochidion acuminatum</i>	460.58	135.33	12.97	99.43	708.31
22	<i>Lithocarpus polystachyus</i>	362.10	102.32	11.66	83.83	559.91
23	<i>Phoebe paniculata</i>	342.55	95.60	11.68	81.31	531.14
24	<i>Styrax benzoides</i>	308.90	87.71	10.45	72.09	479.14
25	<i>Phoebe cathia</i>	298.71	95.18	5.88	54.86	454.63
26	<i>Callicarpa arborea</i>	295.64	82.22	9.95	70.23	458.04
27	<i>Craibiodendron stellatum</i>	279.17	72.43	13.11	76.65	441.36
28	<i>Syzygium gratum</i>	276.36	79.00	8.30	62.26	425.92
29	<i>Helicia nilagirica</i>	235.97	67.03	7.38	53.99	364.38
30	<i>Buchanania lanzan</i>	233.52	73.20	4.80	44.06	355.58
31	<i>Engelhardtia serrata</i>	223.97	67.54	5.35	45.42	342.29
32	<i>Glochidion sphaerogynum</i>	176.37	47.26	7.39	45.75	276.77
33	<i>Eurya nitida</i>	176.10	47.00	7.47	45.91	276.48
34	<i>Diospyros glandulosa</i>	174.70	48.48	6.12	41.96	271.26
35	<i>Phyllanthus emblica</i>	151.80	38.72	7.99	43.56	242.06
36	<i>Eriolaena candollei</i>	140.50	39.71	4.50	32.47	217.17
37	<i>Lithocarpus sootepensis</i>	128.88	33.30	5.97	35.40	203.55
38	<i>Dillenia aurea</i>	124.30	33.92	4.63	30.77	193.61
39	<i>Syzygium albiflorum</i>	115.11	32.95	3.49	25.94	177.49
40	<i>Aporosa villosa</i>	107.22	27.39	5.43	30.42	170.46
41	<i>Albizia odoratissima</i>	106.59	29.86	3.47	24.96	164.88
42	<i>Albizia chinensis</i>	105.35	29.83	3.26	24.11	162.56
43	<i>Terminalia chebula</i>	104.21	29.77	3.17	23.56	160.71
44	<i>Bombax anceps</i>	103.15	29.74	2.94	22.77	158.61
45	<i>Rapanea porteriana</i>	92.81	24.85	3.67	23.74	145.07
46	<i>Lindera metcalfiana</i>	84.82	23.46	3.03	20.52	131.82
47	<i>Litsea semecarpifolia</i>	76.48	21.60	2.38	17.58	118.05
48	<i>Symplocos racemosa</i>	67.26	17.87	2.76	17.48	105.38
49	<i>Embelia subcoriacea</i>	66.13	19.46	1.76	14.07	101.43
50	<i>Lithocarpus lindleyanus</i>	59.06	17.42	1.51	12.43	90.43
51	<i>Stereospermum neuranthum</i>	56.40	14.23	2.94	16.30	89.87
52	<i>Gluta usitata</i>	54.32	15.95	1.42	11.54	83.22
53	<i>Archidendron clypearia</i>	53.45	14.85	1.87	12.82	83.00

Table 3-11 (Continued)

No	Species	Carbon (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
54	<i>Litsea glutinosa</i>	53.12	15.35	1.55	11.76	81.77
55	<i>Betula alnoides</i>	44.15	12.29	1.45	10.43	68.33
56	<i>Olea salicifolia</i>	35.34	9.75	1.25	8.56	54.90
57	<i>Erythrina subumbrans</i>	34.77	9.60	1.23	8.41	54.01
58	<i>Ampelocissus martinii</i>	34.32	9.03	1.45	9.06	53.85
59	<i>Sarcosperma arboreum</i>	31.25	8.81	0.99	7.23	48.28
60	<i>Vitex pinnata</i>	29.68	8.39	0.91	6.80	45.78
61	<i>Magnolia henryi</i>	27.24	7.33	1.04	6.88	42.50
62	<i>Ilex umbellulata</i>	24.20	6.15	1.21	6.87	38.43
63	<i>Gardenia sootepensis</i>	23.18	6.06	1.02	6.22	36.48
64	<i>Kydia calycina</i>	22.68	6.30	0.75	5.37	35.10
65	<i>Turpinia cochinchinensis</i>	22.19	5.54	1.24	6.58	35.54
66	<i>Viburnum sambucinum</i>	21.30	4.87	1.74	7.52	35.43
67	<i>Pyrenaria diospyricarpa</i>	21.29	4.96	1.53	7.17	34.95
68	<i>Quercus kingiana</i>	17.75	4.43	0.95	5.22	28.35
69	<i>Colona flagrocarpa</i>	15.57	4.04	0.69	4.21	24.51
70	<i>Milletia pachycarpa</i>	14.50	3.76	0.66	3.95	22.87
71	<i>Dalbergia velutina</i>	12.15	3.23	0.49	3.14	19.02
72	<i>Trichilla connaroides</i>	11.61	2.92	0.61	3.36	18.50
73	<i>Dolichandrone serrulata</i>	11.34	2.82	0.61	3.34	18.10
74	<i>Radermachera ignea</i>	11.23	2.98	0.45	2.90	17.56
75	<i>Gordonia dalglieshiana</i>	9.23	2.22	0.56	2.89	14.90
76	<i>Combretum punctatum</i>	8.26	2.15	0.36	2.22	12.99
77	<i>Syzygium cumini</i>	7.87	1.96	0.42	2.31	12.56
78	<i>Garuga pinnata</i>	7.87	1.92	0.46	2.42	12.67
79	<i>Shorea roxburghii</i>	7.84	2.03	0.35	2.13	12.36
80	<i>Cinnamomum iners</i>	7.53	1.95	0.34	2.04	11.86
81	<i>Vernonia volkameriifolia</i>	7.27	1.75	0.45	2.28	11.75
82	<i>Beilschmiedia gammieana</i>	6.77	1.60	0.47	2.21	11.05
83	<i>Saurauia roxburghii</i>	6.67	1.55	0.49	2.25	10.97
84	<i>Glochidion hirsutum</i>	6.58	1.53	0.49	2.24	10.83
85	<i>Artocarpus gomezianus</i>	5.36	1.36	0.26	1.52	8.51
86	<i>Pterospermum acerifolium</i>	4.39	1.02	0.33	1.50	7.24
87	<i>Semecarpus albescens</i>	3.97	0.82	0.52	1.73	7.03
88	<i>Entada rheedii</i>	3.15	0.77	0.18	0.95	5.06
89	<i>Schefflera bengalensis</i>	3.12	0.76	0.18	0.94	5.00
90	<i>Catunaregam tomentosa</i>	2.12	0.45	0.23	0.86	3.66
91	<i>Antidesma ghaesembilla</i>	1.99	0.44	0.17	0.73	3.33
92	<i>Mussaenda sandariana</i>	1.75	0.38	0.17	0.68	2.98
93	<i>Rhus javanica</i>	1.28	0.26	0.16	0.56	2.26
94	<i>Ficus sp.</i>	1.15	0.27	0.09	0.39	1.90
95	<i>Canarium subulatum</i>	0.80	0.18	0.07	0.29	1.33
96	<i>Horsfieldia tomentosa</i>	0.77	0.17	0.06	0.28	1.29
97	<i>Protium serratum</i>	0.48	0.10	0.05	0.20	0.83
98	<i>Pavetta tomentosa</i>	0.43	0.09	0.05	0.18	0.74
99	<i>Celastrus paniculata</i>	0.39	0.08	0.04	0.15	0.67
100	<i>Melastoma malabathricum</i>	0.36	0.07	0.04	0.15	0.63
101	<i>Gmelina philippensis</i>	0.25	0.05	0.04	0.12	0.45
102	<i>Cinnamomum porrectum</i>	0.19	0.03	0.04	0.10	0.37
103	<i>Eurya acuminata</i>	0.15	0.03	0.02	0.06	0.26
Total		64,867	19,704	1,599	13,168	99,337

Table 3-12 Biomass nitrogen amounts of tree species in fragmented forests

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
1	<i>Pinus kesiya</i>	228.6637	75.2918	12.8986	42.4058	359.26
2	<i>Castanopsis acuminatissima</i>	88.0697	27.3537	6.4511	18.3650	140.24
3	<i>Schima wallichii</i>	49.3210	15.0789	3.9368	10.6567	78.99
4	<i>Castanopsis diversifolia</i>	41.0814	13.2124	2.6401	8.0381	64.97
5	<i>Quercus brandisiana</i>	31.9224	9.8898	2.3714	6.6915	50.88
6	<i>Tristania rufescens</i>	22.0121	6.2406	2.4834	5.5390	36.28
7	<i>Castanopsis purpurea</i>	21.5486	6.6533	1.6284	4.5522	34.38
8	<i>Lithocarpus elegans</i>	18.9103	5.6638	1.6589	4.2610	30.49
9	<i>Engelhardtia spicata</i>	18.9051	5.7442	1.5326	4.1214	30.30
10	<i>Ternstroemia gymnanthera</i>	16.2649	4.7513	1.5692	3.8371	26.42
11	<i>Helicia terminalis</i>	13.9518	4.1626	1.2614	3.1779	22.55
12	<i>Anneslea fragrans</i>	11.0225	3.1961	1.0851	2.6297	17.93
13	<i>Dalbergia cultrata</i>	10.5859	3.1639	0.9327	2.3897	17.07
14	<i>Wendlandia tinctoria</i>	10.2114	2.6879	1.5170	2.9437	17.36
15	<i>Quercus vestita</i>	8.8060	2.5661	0.8762	2.0971	14.35
16	<i>Quercus semiserrata</i>	8.3782	2.6384	0.5831	1.7026	13.30
17	<i>Castanopsis armata</i>	5.9699	2.0812	0.2553	0.9824	9.29
18	<i>Vaccinium sprengelii</i>	5.8783	1.5186	0.9717	1.7695	10.14
19	<i>Elaeocarpus stipularis</i>	5.5154	1.8309	0.2971	1.0035	8.65
20	<i>Lithocarpus fenestratus</i>	5.3600	1.5584	0.5184	1.2708	8.71
21	<i>Glochidion acuminatum</i>	4.8919	1.4728	0.4270	1.0933	7.88
22	<i>Lithocarpus polystachyus</i>	3.8460	1.1136	0.3837	0.9218	6.26
23	<i>Phoebe paniculata</i>	3.6383	1.0404	0.3844	0.8941	5.96
24	<i>Styrax benzoides</i>	3.2809	0.9545	0.3441	0.7927	5.37
25	<i>Phoebe cathia</i>	3.1727	1.0358	0.1936	0.6032	5.01
26	<i>Callicarpa arborea</i>	3.1401	0.8948	0.3274	0.7722	5.13
27	<i>Craibiodendron stellatum</i>	2.9652	0.7882	0.4317	0.8428	5.03
28	<i>Syzygium gratum</i>	2.9353	0.8598	0.2732	0.6846	4.75
29	<i>Helicia nilagirica</i>	2.5063	0.7295	0.2430	0.5937	4.07
30	<i>Buchanania lanzan</i>	2.4802	0.7967	0.1582	0.4844	3.92
31	<i>Engelhardtia serrata</i>	2.3789	0.7351	0.1762	0.4994	3.79
32	<i>Glochidion sphaerogynum</i>	1.8732	0.5143	0.2434	0.5031	3.13
33	<i>Eurya nitida</i>	1.8704	0.5115	0.2459	0.5048	3.13
34	<i>Diospyros glandulosa</i>	1.8555	0.5276	0.2014	0.4614	3.05
35	<i>Phyllanthus emblica</i>	1.6123	0.4213	0.2629	0.4789	2.78
36	<i>Eriolaena candollei</i>	1.4923	0.4322	0.1480	0.3570	2.43
37	<i>Lithocarpus sootepensis</i>	1.3689	0.3624	0.1965	0.3892	2.32
38	<i>Dillenia aurea</i>	1.3202	0.3692	0.1523	0.3384	2.18
39	<i>Syzygium albiflorum</i>	1.2226	0.3586	0.1148	0.2852	1.98
40	<i>Aporosa villosa</i>	1.1388	0.2980	0.1788	0.3345	1.95
41	<i>Albizia odoratissima</i>	1.1321	0.3249	0.1144	0.2744	1.85
42	<i>Albizia chinensis</i>	1.1190	0.3246	0.1073	0.2652	1.82
43	<i>Terminalia chebula</i>	1.1068	0.3240	0.1044	0.2591	1.79
44	<i>Bombax anceps</i>	1.0956	0.3237	0.0969	0.2504	1.77
45	<i>Rapanea porteriana</i>	0.9857	0.2704	0.1209	0.2611	1.64
46	<i>Lindera metcalfiana</i>	0.9009	0.2553	0.0996	0.2256	1.48
47	<i>Litsea semecarpifolia</i>	0.8123	0.2351	0.0784	0.1933	1.32
48	<i>Symplocos racemosa</i>	0.7144	0.1945	0.0909	0.1922	1.19
49	<i>Embelia subcoriacea</i>	0.7023	0.2118	0.0581	0.1548	1.13
50	<i>Lithocarpus lindleyanus</i>	0.6273	0.1896	0.0498	0.1367	1.00
51	<i>Stereospermum neuranthum</i>	0.5991	0.1548	0.0969	0.1792	1.03
52	<i>Gluta usitata</i>	0.5769	0.1736	0.0466	0.1269	0.92
53	<i>Archidendron clypearia</i>	0.5677	0.1616	0.0616	0.1410	0.93

Table 3-12 (Continued)

No	Species	Nitrogen (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
54	<i>Litsea glutinosa</i>	0.5642	0.1670	0.0512	0.1293	0.91
55	<i>Betula alnoides</i>	0.4690	0.1338	0.0479	0.1146	0.77
56	<i>Olea salicifolia</i>	0.3754	0.1061	0.0412	0.0941	0.62
57	<i>Erythrina subumbrans</i>	0.3693	0.1044	0.0405	0.0925	0.61
58	<i>Ampelocissus martinii</i>	0.3645	0.0983	0.0476	0.0996	0.61
59	<i>Sarcosperma arboreum</i>	0.3319	0.0958	0.0327	0.0795	0.54
60	<i>Vitex pinnata</i>	0.3153	0.0913	0.0300	0.0747	0.51
61	<i>Magnolia henryi</i>	0.2894	0.0797	0.0343	0.0757	0.48
62	<i>Ilex umbellulata</i>	0.2570	0.0670	0.0398	0.0756	0.44
63	<i>Gardenia sootepensis</i>	0.2462	0.0659	0.0336	0.0684	0.41
64	<i>Kydia calycina</i>	0.2409	0.0686	0.0247	0.0590	0.39
65	<i>Turpinia cochinchinensis</i>	0.2356	0.0603	0.0407	0.0723	0.41
66	<i>Viburnum sambucinum</i>	0.2262	0.0530	0.0574	0.0827	0.42
67	<i>Pyrenaria diospyricarpa</i>	0.2262	0.0539	0.0505	0.0788	0.41
68	<i>Quercus kingiana</i>	0.1886	0.0482	0.0313	0.0574	0.33
69	<i>Colona flagrocarpa</i>	0.1654	0.0440	0.0227	0.0463	0.28
70	<i>Milletia pachycarpa</i>	0.1540	0.0409	0.0217	0.0434	0.26
71	<i>Dalbergia velutina</i>	0.1291	0.0352	0.0162	0.0346	0.21
72	<i>Trichilla connaroides</i>	0.1233	0.0318	0.0200	0.0370	0.21
73	<i>Dolichandrone serrulata</i>	0.1204	0.0307	0.0199	0.0367	0.21
74	<i>Radermachera ignea</i>	0.1192	0.0325	0.0148	0.0319	0.20
75	<i>Gordonia dalglieshiana</i>	0.0980	0.0242	0.0186	0.0318	0.17
76	<i>Combretum punctatum</i>	0.0878	0.0234	0.0118	0.0244	0.15
77	<i>Syzygium cumini</i>	0.0836	0.0213	0.0138	0.0254	0.14
78	<i>Garuga pinnata</i>	0.0836	0.0208	0.0152	0.0266	0.15
79	<i>Shorea roxburghii</i>	0.0833	0.0221	0.0116	0.0234	0.14
80	<i>Cinnamomum iners</i>	0.0799	0.0212	0.0111	0.0225	0.13
81	<i>Vernonia volkameriifolia</i>	0.0772	0.0191	0.0148	0.0251	0.14
82	<i>Beilschmiedia gammieana</i>	0.0719	0.0175	0.0153	0.0243	0.13
83	<i>Saurauia roxburghii</i>	0.0709	0.0169	0.0161	0.0248	0.13
84	<i>Glochidion hirsutum</i>	0.0699	0.0166	0.0161	0.0246	0.13
85	<i>Artocarpus gomezianus</i>	0.0570	0.0148	0.0086	0.0167	0.10
86	<i>Pterospermum acerifolium</i>	0.0467	0.0111	0.0109	0.0165	0.09
87	<i>Semecarpus albescens</i>	0.0422	0.0089	0.0170	0.0190	0.09
88	<i>Entada rheedii</i>	0.0335	0.0084	0.0059	0.0105	0.06
89	<i>Schefflera bengalensis</i>	0.0331	0.0083	0.0058	0.0104	0.06
90	<i>Catunaregam tomentosa</i>	0.0225	0.0049	0.0076	0.0095	0.04
91	<i>Antidesma ghaesembilla</i>	0.0211	0.0048	0.0056	0.0080	0.04
92	<i>Mussaenda sanderiana</i>	0.0186	0.0041	0.0057	0.0075	0.04
93	<i>Rhus javanica</i>	0.0136	0.0029	0.0053	0.0061	0.03
94	<i>Ficus sp.</i>	0.0122	0.0029	0.0028	0.0043	0.02
95	<i>Canarium subulatum</i>	0.0085	0.0020	0.0022	0.0031	0.02
96	<i>Horsfieldia tomentosa</i>	0.0082	0.0019	0.0021	0.0031	0.02
97	<i>Protium serratum</i>	0.0051	0.0011	0.0018	0.0022	0.01
98	<i>Pavetta tomentosa</i>	0.0045	0.0010	0.0016	0.0020	0.01
99	<i>Celastrus paniculata</i>	0.0042	0.0009	0.0013	0.0017	0.01
100	<i>Melastoma malabathricum</i>	0.0038	0.0008	0.0015	0.0017	0.01
101	<i>Gmelina philippensis</i>	0.0026	0.0005	0.0013	0.0013	0.01
102	<i>Cinnamomum porrectum</i>	0.0020	0.0004	0.0013	0.0011	0.00
103	<i>Eurya acuminata</i>	0.0015	0.0003	0.0006	0.0007	0.00
Total		689	214	53	145	1,101

Table 3-13 Biomass phosphorus amounts of tree species in fragmented forests

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
1	<i>Pinus kesiya</i>	34.5153	14.2060	1.0546	1.6002	51.38
2	<i>Castanopsis acuminatissima</i>	13.2935	5.1611	0.5274	0.6930	19.68
3	<i>Schima wallichii</i>	7.4447	2.8451	0.3219	0.4021	11.01
4	<i>Castanopsis diversifolia</i>	6.2010	2.4929	0.2159	0.3033	9.21
5	<i>Quercus brandisiana</i>	4.8185	1.8660	0.1939	0.2525	7.13
6	<i>Tristania rufescens</i>	3.3226	1.1775	0.2030	0.2090	4.91
7	<i>Castanopsis purpurea</i>	3.2526	1.2553	0.1331	0.1718	4.81
8	<i>Lithocarpus elegans</i>	2.8544	1.0686	0.1356	0.1608	4.22
9	<i>Engelhardtia spicata</i>	2.8536	1.0838	0.1253	0.1555	4.22
10	<i>Ternstroemia gymnanthera</i>	2.4551	0.8965	0.1283	0.1448	3.62
11	<i>Helicia terminalis</i>	2.1059	0.7854	0.1031	0.1199	3.11
12	<i>Anneslea fragrans</i>	1.6638	0.6030	0.0887	0.0992	2.45
13	<i>Dalbergia cultrata</i>	1.5979	0.5970	0.0763	0.0902	2.36
14	<i>Wendlandia tinctoria</i>	1.5413	0.5071	0.1240	0.1111	2.28
15	<i>Quercus vestita</i>	1.3292	0.4842	0.0716	0.0791	1.96
16	<i>Quercus semiserrata</i>	1.2646	0.4978	0.0477	0.0642	1.87
17	<i>Castanopsis armata</i>	0.9011	0.3927	0.0209	0.0371	1.35
18	<i>Vaccinium sprengelii</i>	0.8873	0.2865	0.0795	0.0668	1.32
19	<i>Elaeocarpus stipularis</i>	0.8325	0.3455	0.0243	0.0379	1.24
20	<i>Lithocarpus fenestratus</i>	0.8091	0.2940	0.0424	0.0480	1.19
21	<i>Glochidion acuminatum</i>	0.7384	0.2779	0.0349	0.0413	1.09
22	<i>Lithocarpus polystachyus</i>	0.5805	0.2101	0.0314	0.0348	0.86
23	<i>Phoebe paniculata</i>	0.5492	0.1963	0.0314	0.0337	0.81
24	<i>Styrax benzoides</i>	0.4952	0.1801	0.0281	0.0299	0.73
25	<i>Phoebe cathia</i>	0.4789	0.1954	0.0158	0.0228	0.71
26	<i>Callicarpa arborea</i>	0.4740	0.1688	0.0268	0.0291	0.70
27	<i>Craibiodendron stellatum</i>	0.4476	0.1487	0.0353	0.0318	0.66
28	<i>Syzygium gratum</i>	0.4431	0.1622	0.0223	0.0258	0.65
29	<i>Helicia nilagirica</i>	0.3783	0.1376	0.0199	0.0224	0.56
30	<i>Buchanania lanzan</i>	0.3744	0.1503	0.0129	0.0183	0.56
31	<i>Engelhardtia serrata</i>	0.3591	0.1387	0.0144	0.0188	0.53
32	<i>Glochidion sphaerogynum</i>	0.2828	0.0970	0.0199	0.0190	0.42
33	<i>Eurya nitida</i>	0.2823	0.0965	0.0201	0.0191	0.42
34	<i>Diospyros glandulosa</i>	0.2801	0.0996	0.0165	0.0174	0.41
35	<i>Phyllanthus emblica</i>	0.2434	0.0795	0.0215	0.0181	0.36
36	<i>Eriolaena candollei</i>	0.2252	0.0815	0.0121	0.0135	0.33
37	<i>Lithocarpus sootepensis</i>	0.2066	0.0684	0.0161	0.0147	0.31
38	<i>Dillenia aurea</i>	0.1993	0.0697	0.0125	0.0128	0.29
39	<i>Syzygium albiflorum</i>	0.1846	0.0677	0.0094	0.0108	0.27
40	<i>Aporosa villosa</i>	0.1719	0.0562	0.0146	0.0126	0.26
41	<i>Albizia odoratissima</i>	0.1709	0.0613	0.0094	0.0104	0.25
42	<i>Albizia chinensis</i>	0.1689	0.0613	0.0088	0.0100	0.25
43	<i>Terminalia chebula</i>	0.1671	0.0611	0.0085	0.0098	0.25
44	<i>Bombax anceps</i>	0.1654	0.0611	0.0079	0.0094	0.24
45	<i>Rapanea porteriiana</i>	0.1488	0.0510	0.0099	0.0099	0.22
46	<i>Lindera metcalfiana</i>	0.1360	0.0482	0.0081	0.0085	0.20
47	<i>Litsea semecarpifolia</i>	0.1226	0.0444	0.0064	0.0073	0.18
48	<i>Symplocos racemosa</i>	0.1078	0.0367	0.0074	0.0073	0.16
49	<i>Embelia subcoriacea</i>	0.1060	0.0400	0.0047	0.0058	0.16
50	<i>Lithocarpus lindleyanus</i>	0.0947	0.0358	0.0041	0.0052	0.14
51	<i>Stereospermum neuranthum</i>	0.0904	0.0292	0.0079	0.0068	0.13
52	<i>Gluta usitata</i>	0.0871	0.0327	0.0038	0.0048	0.13

Table 3-13 (Continued)

No	Species	Phosphorus (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
53	<i>Archidendron clypearia</i>	0.0857	0.0305	0.0050	0.0053	0.13
54	<i>Litsea glutinosa</i>	0.0852	0.0315	0.0042	0.0049	0.13
55	<i>Betula alnoides</i>	0.0708	0.0252	0.0039	0.0043	0.10
56	<i>Olea salicifolia</i>	0.0567	0.0200	0.0034	0.0036	0.08
57	<i>Erythrina subumbrans</i>	0.0557	0.0197	0.0033	0.0035	0.08
58	<i>Ampelocissus martinii</i>	0.0550	0.0185	0.0039	0.0038	0.08
59	<i>Sarcosperma arboreum</i>	0.0501	0.0181	0.0027	0.0030	0.07
60	<i>Vitex pinnata</i>	0.0476	0.0172	0.0025	0.0028	0.07
61	<i>Magnolia henryi</i>	0.0437	0.0150	0.0028	0.0029	0.06
62	<i>Ilex umbellulata</i>	0.0388	0.0126	0.0033	0.0029	0.06
63	<i>Gardenia sootepensis</i>	0.0372	0.0124	0.0027	0.0026	0.05
64	<i>Kydia calycina</i>	0.0364	0.0129	0.0020	0.0022	0.05
65	<i>Turpinia cochinchinensis</i>	0.0356	0.0114	0.0033	0.0027	0.05
66	<i>Viburnum sambucinum</i>	0.0341	0.0100	0.0047	0.0031	0.05
67	<i>Pyrenaria diospyricarpa</i>	0.0341	0.0102	0.0041	0.0030	0.05
68	<i>Quercus kingiana</i>	0.0285	0.0091	0.0026	0.0022	0.04
69	<i>Colona flagrocarpa</i>	0.0250	0.0083	0.0019	0.0017	0.04
70	<i>Millettia pachycarpa</i>	0.0232	0.0077	0.0018	0.0016	0.03
71	<i>Dalbergia velutina</i>	0.0195	0.0066	0.0013	0.0013	0.03
72	<i>Trichilla connaroides</i>	0.0186	0.0060	0.0016	0.0014	0.03
73	<i>Dolichandrone serrulata</i>	0.0182	0.0058	0.0016	0.0014	0.03
74	<i>Radermachera ignea</i>	0.0180	0.0061	0.0012	0.0012	0.03
75	<i>Gordonia dalglieshiana</i>	0.0148	0.0046	0.0015	0.0012	0.02
76	<i>Combretum punctatum</i>	0.0132	0.0044	0.0010	0.0009	0.02
77	<i>Syzygium cumini</i>	0.0126	0.0040	0.0011	0.0010	0.02
78	<i>Garuga pinnata</i>	0.0126	0.0039	0.0012	0.0010	0.02
79	<i>Shorea roxburghii</i>	0.0126	0.0042	0.0010	0.0009	0.02
80	<i>Cinnamomum iners</i>	0.0121	0.0040	0.0009	0.0008	0.02
81	<i>Vernonia volkameriifolia</i>	0.0116	0.0036	0.0012	0.0009	0.02
82	<i>Beilschmiedia gammieana</i>	0.0109	0.0033	0.0013	0.0009	0.02
83	<i>Saurauia roxburghii</i>	0.0107	0.0032	0.0013	0.0009	0.02
84	<i>Glochidion hirsutum</i>	0.0105	0.0031	0.0013	0.0009	0.02
85	<i>Artocarpus gomezianus</i>	0.0086	0.0028	0.0007	0.0006	0.01
86	<i>Pterospermum acerifolium</i>	0.0070	0.0021	0.0009	0.0006	0.01
87	<i>Semecarpus albescens</i>	0.0064	0.0017	0.0014	0.0007	0.01
88	<i>Entada rheedii</i>	0.0051	0.0016	0.0005	0.0004	0.01
89	<i>Schefflera bengalensis</i>	0.0050	0.0016	0.0005	0.0004	0.01
90	<i>Catunaregam tomentosa</i>	0.0034	0.0009	0.0006	0.0004	0.01
91	<i>Antidesma ghaesembilla</i>	0.0032	0.0009	0.0005	0.0003	0.00
92	<i>Mussaenda sanderiana</i>	0.0028	0.0008	0.0005	0.0003	0.00
93	<i>Rhus javanica</i>	0.0021	0.0005	0.0004	0.0002	0.00
94	<i>Ficus sp.</i>	0.0018	0.0005	0.0002	0.0002	0.00
95	<i>Canarium subulatum</i>	0.0013	0.0004	0.0002	0.0001	0.00
96	<i>Horsfieldia tomentosa</i>	0.0012	0.0004	0.0002	0.0001	0.00
97	<i>Protium serratum</i>	0.0008	0.0002	0.0001	0.0001	0.00
98	<i>Pavetta tomentosa</i>	0.0007	0.0002	0.0001	0.0001	0.00
99	<i>Celastrus paniculata</i>	0.0006	0.0002	0.0001	0.0001	0.00
100	<i>Melastoma malabathricum</i>	0.0006	0.0002	0.0001	0.0001	0.00
101	<i>Gmelina philippensis</i>	0.0004	0.0001	0.0001	0.0000	0.00
102	<i>Cinnamomum porrectum</i>	0.0003	0.0001	0.0001	0.0000	0.00
103	<i>Eurya acuminata</i>	0.0002	0.0001	0.0001	0.0000	0.00
Total		104	40	4	5	154

Table 3-14 Biomass potassium amounts of tree species in fragmented forests

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
1	<i>Pinus kesiya</i>	159.6332	56.8240	8.9236	21.6029	246.98
2	<i>Castanopsis acuminatissima</i>	61.4826	20.6443	4.4630	9.3558	95.95
3	<i>Schima wallichii</i>	34.4316	11.3803	2.7236	5.4289	53.96
4	<i>Castanopsis diversifolia</i>	28.6795	9.9716	1.8265	4.0949	44.57
5	<i>Quercus brandisiana</i>	22.2855	7.4640	1.6406	3.4089	34.80
6	<i>Tristania rufescens</i>	15.3670	4.7099	1.7180	2.8218	24.62
7	<i>Castanopsis purpurea</i>	15.0434	5.0213	1.1266	2.3190	23.51
8	<i>Lithocarpus elegans</i>	13.2015	4.2746	1.1477	2.1707	20.79
9	<i>Engelhardtia spicata</i>	13.1979	4.3352	1.0603	2.0996	20.69
10	<i>Ternstroemia gymnanthera</i>	11.3547	3.5859	1.0856	1.9547	17.98
11	<i>Helicia terminalis</i>	9.7400	3.1416	0.8726	1.6189	15.37
12	<i>Anneslea fragrans</i>	7.6949	2.4122	0.7507	1.3396	12.20
13	<i>Dalbergia cultrata</i>	7.3902	2.3879	0.6453	1.2174	11.64
14	<i>Wendlandia tinctoria</i>	7.1287	2.0286	1.0495	1.4996	11.71
15	<i>Quercus vestita</i>	6.1476	1.9367	0.6062	1.0684	9.76
16	<i>Quercus semiserrata</i>	5.8489	1.9912	0.4034	0.8674	9.11
17	<i>Castanopsis armata</i>	4.1676	1.5707	0.1766	0.5005	6.42
18	<i>Vaccinium sprengelii</i>	4.1037	1.1461	0.6723	0.9015	6.82
19	<i>Elaeocarpus stipularis</i>	3.8504	1.3818	0.2055	0.5112	5.95
20	<i>Lithocarpus fenestratus</i>	3.7419	1.1762	0.3586	0.6474	5.92
21	<i>Glochidion acuminatum</i>	3.4151	1.1115	0.2954	0.5569	5.38
22	<i>Lithocarpus polystachyus</i>	2.6849	0.8404	0.2654	0.4696	4.26
23	<i>Phoebe paniculata</i>	2.5400	0.7852	0.2659	0.4555	4.05
24	<i>Styrax benzoides</i>	2.2904	0.7204	0.2381	0.4038	3.65
25	<i>Phoebe cathia</i>	2.2149	0.7817	0.1339	0.3073	3.44
26	<i>Callicarpa arborea</i>	2.1921	0.6753	0.2265	0.3934	3.49
27	<i>Craibiodendron stellatum</i>	2.0700	0.5949	0.2986	0.4294	3.39
28	<i>Syzygium gratum</i>	2.0492	0.6489	0.1890	0.3487	3.24
29	<i>Helicia nilagirica</i>	1.7497	0.5506	0.1681	0.3024	2.77
30	<i>Buchanania lanzan</i>	1.7315	0.6013	0.1094	0.2468	2.69
31	<i>Engelhardtia serrata</i>	1.6607	0.5548	0.1219	0.2544	2.59
32	<i>Glochidion sphaerogynum</i>	1.3077	0.3881	0.1684	0.2563	2.12
33	<i>Eurya nitida</i>	1.3057	0.3860	0.1701	0.2572	2.12
34	<i>Diospyros glandulosa</i>	1.2953	0.3982	0.1394	0.2351	2.07
35	<i>Phyllanthus emblica</i>	1.1256	0.3180	0.1819	0.2440	1.87
36	<i>Eriolaena candollei</i>	1.0418	0.3262	0.1024	0.1819	1.65
37	<i>Lithocarpus sootepensis</i>	0.9556	0.2735	0.1360	0.1983	1.56
38	<i>Dillenia aurea</i>	0.9216	0.2786	0.1054	0.1724	1.48
39	<i>Syzygium albiflorum</i>	0.8535	0.2706	0.0794	0.1453	1.35
40	<i>Aporosa villosa</i>	0.7950	0.2249	0.1237	0.1704	1.31
41	<i>Albizia odoratissima</i>	0.7904	0.2452	0.0791	0.1398	1.25
42	<i>Albizia chinensis</i>	0.7812	0.2450	0.0742	0.1351	1.24
43	<i>Terminalia chebula</i>	0.7727	0.2445	0.0723	0.1320	1.22
44	<i>Bombax anceps</i>	0.7648	0.2443	0.0670	0.1276	1.20
45	<i>Rapanea porteriana</i>	0.6881	0.2041	0.0837	0.1330	1.11
46	<i>Lindera metcalfiana</i>	0.6290	0.1927	0.0689	0.1149	1.01
47	<i>Litsea semecarpifolia</i>	0.5671	0.1774	0.0543	0.0985	0.90
48	<i>Symplocos racemosa</i>	0.4987	0.1468	0.0629	0.0979	0.81
49	<i>Embelia subcoriacea</i>	0.4903	0.1599	0.0402	0.0788	0.77
50	<i>Lithocarpus lindleyanus</i>	0.4379	0.1431	0.0344	0.0696	0.69
51	<i>Stereospermum neuranthum</i>	0.4182	0.1169	0.0670	0.0913	0.69
52	<i>Gluta usitata</i>	0.4028	0.1310	0.0322	0.0646	0.63
53	<i>Archidendron clypearia</i>	0.3964	0.1220	0.0426	0.0718	0.63

Table 3-14 (Continued)

No	Species	Potassium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
54	<i>Litsea glutinosa</i>	0.3939	0.1260	0.0354	0.0659	0.62
55	<i>Betula alnoides</i>	0.3274	0.1010	0.0331	0.0584	0.52
56	<i>Olea salicifolia</i>	0.2621	0.0801	0.0285	0.0479	0.42
57	<i>Erythrina subumbrans</i>	0.2578	0.0788	0.0280	0.0471	0.41
58	<i>Ampelocissus martinii</i>	0.2545	0.0742	0.0329	0.0508	0.41
59	<i>Sarcosperma arboreum</i>	0.2317	0.0723	0.0227	0.0405	0.37
60	<i>Vitex pinnata</i>	0.2201	0.0689	0.0208	0.0381	0.35
61	<i>Magnolia henryi</i>	0.2020	0.0602	0.0238	0.0386	0.32
62	<i>Ilex umbellulata</i>	0.1794	0.0505	0.0276	0.0385	0.30
63	<i>Gardenia sootepensis</i>	0.1719	0.0498	0.0232	0.0349	0.28
64	<i>Kydia calycina</i>	0.1682	0.0518	0.0171	0.0301	0.27
65	<i>Turpinia cochinchinensis</i>	0.1645	0.0455	0.0281	0.0368	0.27
66	<i>Viburnum sambucinum</i>	0.1579	0.0400	0.0397	0.0421	0.28
67	<i>Pyrenaria diospyricarpa</i>	0.1579	0.0407	0.0349	0.0401	0.27
68	<i>Quercus kingiana</i>	0.1316	0.0364	0.0216	0.0292	0.22
69	<i>Colona flagrocarpa</i>	0.1155	0.0332	0.0157	0.0236	0.19
70	<i>Milletia pachycarpa</i>	0.1075	0.0309	0.0150	0.0221	0.18
71	<i>Dalbergia velutina</i>	0.0901	0.0266	0.0112	0.0176	0.15
72	<i>Trichilla connaroides</i>	0.0861	0.0240	0.0139	0.0188	0.14
73	<i>Dolichandrone serrulata</i>	0.0841	0.0232	0.0138	0.0187	0.14
74	<i>Radermachera ignea</i>	0.0832	0.0245	0.0102	0.0162	0.13
75	<i>Gordonia dalglieshiana</i>	0.0684	0.0183	0.0128	0.0162	0.12
76	<i>Combretum punctatum</i>	0.0613	0.0177	0.0082	0.0124	0.10
77	<i>Syzygium cumini</i>	0.0584	0.0161	0.0095	0.0130	0.10
78	<i>Garuga pinnata</i>	0.0584	0.0157	0.0105	0.0136	0.10
79	<i>Shorea roxburghii</i>	0.0581	0.0167	0.0081	0.0119	0.09
80	<i>Cinnamomum iners</i>	0.0558	0.0160	0.0076	0.0114	0.09
81	<i>Vernonia volkameriifolia</i>	0.0539	0.0144	0.0103	0.0128	0.09
82	<i>Beilschmiedia gammieana</i>	0.0502	0.0132	0.0106	0.0124	0.09
83	<i>Saurauia roxburghii</i>	0.0495	0.0128	0.0111	0.0126	0.09
84	<i>Glochidion hirsutum</i>	0.0488	0.0125	0.0112	0.0125	0.09
85	<i>Artocarpus gomezianus</i>	0.0398	0.0112	0.0060	0.0085	0.07
86	<i>Pterospermum acerifolium</i>	0.0326	0.0084	0.0075	0.0084	0.06
87	<i>Semecarpus albescens</i>	0.0294	0.0067	0.0117	0.0097	0.06
88	<i>Entada rheedii</i>	0.0234	0.0063	0.0041	0.0053	0.04
89	<i>Schefflera bengalensis</i>	0.0231	0.0063	0.0040	0.0053	0.04
90	<i>Catunaregam tomentosa</i>	0.0157	0.0037	0.0053	0.0048	0.03
91	<i>Antidesma ghaesembilla</i>	0.0148	0.0036	0.0039	0.0041	0.03
92	<i>Mussaenda sanderiana</i>	0.0130	0.0031	0.0039	0.0038	0.02
93	<i>Rhus javanica</i>	0.0095	0.0022	0.0037	0.0031	0.02
94	<i>Ficus sp.</i>	0.0085	0.0022	0.0019	0.0022	0.01
95	<i>Canarium subulatum</i>	0.0059	0.0015	0.0015	0.0016	0.01
96	<i>Horsfieldia tomentosa</i>	0.0057	0.0014	0.0015	0.0016	0.01
97	<i>Protium serratum</i>	0.0036	0.0008	0.0012	0.0011	0.01
98	<i>Pavetta tomentosa</i>	0.0032	0.0007	0.0011	0.0010	0.01
99	<i>Celastrus paniculata</i>	0.0029	0.0007	0.0009	0.0009	0.01
100	<i>Melastoma malabathricum</i>	0.0027	0.0006	0.0010	0.0009	0.01
101	<i>Gmelina philippensis</i>	0.0018	0.0004	0.0009	0.0007	0.00
102	<i>Cinnamomum porrectum</i>	0.0014	0.0003	0.0009	0.0006	0.00
103	<i>Eurya acuminata</i>	0.0011	0.0002	0.0004	0.0004	0.00
Total		481	162	36	74	753

Table 3-15 Biomass calcium amounts of tree species in fragmented forests

No	Species	Calcium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
1	<i>Pinus kesiya</i>	327.8952	113.6481	12.1685	70.4096	524.12
2	<i>Castanopsis acuminatissima</i>	126.2887	41.2887	6.0859	30.4929	204.16
3	<i>Schima wallichii</i>	70.7244	22.7606	3.7140	17.6942	114.89
4	<i>Castanopsis diversifolia</i>	58.9092	19.9432	2.4906	13.3462	94.69
5	<i>Quercus brandisiana</i>	45.7755	14.9280	2.2372	11.1105	74.05
6	<i>Tristania rufescens</i>	31.5645	9.4198	2.3428	9.1969	52.52
7	<i>Castanopsis purpurea</i>	30.8999	10.0427	1.5362	7.5583	50.04
8	<i>Lithocarpus elegans</i>	27.1167	8.5491	1.5650	7.0748	44.31
9	<i>Engelhardtia spicata</i>	27.1091	8.6705	1.4459	6.8431	44.07
10	<i>Ternstroemia gymnanthera</i>	23.3232	7.1718	1.4804	6.3710	38.35
11	<i>Helicia terminalis</i>	20.0064	6.2832	1.1900	5.2765	32.76
12	<i>Anneslea fragrans</i>	15.8058	4.8244	1.0237	4.3662	26.02
13	<i>Dalbergia cultrata</i>	15.1798	4.7758	0.8799	3.9677	24.80
14	<i>Wendlandia tinctoria</i>	14.6428	4.0572	1.4311	4.8877	25.02
15	<i>Quercus vestita</i>	12.6274	3.8734	0.8266	3.4820	20.81
16	<i>Quercus semiserrata</i>	12.0140	3.9825	0.5501	2.8270	19.37
17	<i>Castanopsis armata</i>	8.5606	3.1414	0.2409	1.6312	13.57
18	<i>Vaccinium sprengelii</i>	8.4293	2.2922	0.9167	2.9381	14.58
19	<i>Elaeocarpus stipularis</i>	7.9088	2.7637	0.2803	1.6662	12.62
20	<i>Lithocarpus fenestratus</i>	7.6861	2.3523	0.4891	2.1100	12.64
21	<i>Glochidion acuminatum</i>	7.0148	2.2231	0.4028	1.8152	11.46
22	<i>Lithocarpus polystachyus</i>	5.5150	1.6808	0.3620	1.5305	9.09
23	<i>Phoebe paniculata</i>	5.2172	1.5704	0.3626	1.4845	8.63
24	<i>Styrax benzoides</i>	4.7047	1.4407	0.3246	1.3161	7.79
25	<i>Phoebe cathia</i>	4.5495	1.5635	0.1826	1.0015	7.30
26	<i>Callicarpa arborea</i>	4.5028	1.3507	0.3089	1.2822	7.44
27	<i>Craibiodendron stellatum</i>	4.2519	1.1898	0.4072	1.3994	7.25
28	<i>Syzygium gratum</i>	4.2092	1.2978	0.2577	1.1367	6.90
29	<i>Helicia nilagirica</i>	3.5940	1.1012	0.2292	0.9857	5.91
30	<i>Buchanania lanzan</i>	3.5566	1.2025	0.1492	0.8044	5.71
31	<i>Engelhardtia serrata</i>	3.4112	1.1095	0.1662	0.8293	5.52
32	<i>Glochidion sphaerogynum</i>	2.6861	0.7763	0.2296	0.8353	4.53
33	<i>Eurya nitida</i>	2.6820	0.7720	0.2320	0.8382	4.52
34	<i>Diospyros glandulosa</i>	2.6607	0.7964	0.1900	0.7661	4.41
35	<i>Phyllanthus emblica</i>	2.3120	0.6360	0.2480	0.7952	3.99
36	<i>Eriolaena candollei</i>	2.1398	0.6523	0.1396	0.5928	3.52
37	<i>Lithocarpus sootepensis</i>	1.9629	0.5470	0.1854	0.6463	3.34
38	<i>Dillenia aurea</i>	1.8931	0.5572	0.1437	0.5618	3.16
39	<i>Syzygium albiflorum</i>	1.7532	0.5413	0.1083	0.4736	2.88
40	<i>Aporosa villosa</i>	1.6331	0.4499	0.1687	0.5554	2.81
41	<i>Albizia odoratissima</i>	1.6235	0.4904	0.1079	0.4557	2.68
42	<i>Albizia chinensis</i>	1.6046	0.4900	0.1012	0.4403	2.64
43	<i>Terminalia chebula</i>	1.5871	0.4890	0.0985	0.4302	2.60
44	<i>Bombax anceps</i>	1.5710	0.4886	0.0914	0.4157	2.57
45	<i>Rapanea portेरiana</i>	1.4135	0.4082	0.1141	0.4335	2.37
46	<i>Lindera metcalfiana</i>	1.2919	0.3853	0.0940	0.3746	2.15
47	<i>Litsea semecarpifolia</i>	1.1649	0.3549	0.0740	0.3210	1.91
48	<i>Symplocos racemosa</i>	1.0244	0.2936	0.0858	0.3192	1.72
49	<i>Embelia subcoriacea</i>	1.0071	0.3197	0.0548	0.2570	1.64
50	<i>Lithocarpus lindleyanus</i>	0.8995	0.2862	0.0470	0.2270	1.46
51	<i>Stereospermum neuranthum</i>	0.8590	0.2337	0.0914	0.2976	1.48
52	<i>Gluta usitata</i>	0.8273	0.2620	0.0440	0.2107	1.34
53	<i>Archidendron clypearia</i>	0.8141	0.2439	0.0581	0.2341	1.35

Table 3-15 (Continued)

No	Species	Calcium (kg. ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
54	<i>Litsea glutinosa</i>	0.8090	0.2521	0.0483	0.2147	1.32
55	<i>Betula alnoides</i>	0.6725	0.2019	0.0452	0.1903	1.11
56	<i>Olea salicifolia</i>	0.5383	0.1602	0.0389	0.1563	0.89
57	<i>Erythrina subumbrans</i>	0.5296	0.1577	0.0382	0.1536	0.88
58	<i>Ampelocissus martinii</i>	0.5227	0.1483	0.0449	0.1654	0.88
59	<i>Sarcosperma arboreum</i>	0.4759	0.1446	0.0309	0.1320	0.78
60	<i>Vitex pinnata</i>	0.4521	0.1378	0.0283	0.1241	0.74
61	<i>Magnolia henryi</i>	0.4149	0.1204	0.0324	0.1257	0.69
62	<i>Ilex umbellulata</i>	0.3685	0.1011	0.0376	0.1254	0.63
63	<i>Gardenia sootepensis</i>	0.3531	0.0995	0.0317	0.1136	0.60
64	<i>Kydia calycina</i>	0.3454	0.1035	0.0233	0.0980	0.57
65	<i>Turpinia cochinchinensis</i>	0.3379	0.0910	0.0384	0.1201	0.59
66	<i>Viburnum sambucinum</i>	0.3244	0.0800	0.0542	0.1374	0.60
67	<i>Pyrenaria diospyricarpa</i>	0.3243	0.0814	0.0476	0.1308	0.58
68	<i>Quercus kingiana</i>	0.2704	0.0727	0.0295	0.0953	0.47
69	<i>Colona flagrocarpa</i>	0.2372	0.0664	0.0214	0.0768	0.40
70	<i>Millettia pachycarpa</i>	0.2208	0.0618	0.0205	0.0721	0.38
71	<i>Dalbergia velutina</i>	0.1851	0.0531	0.0153	0.0574	0.31
72	<i>Trichilla connaroides</i>	0.1768	0.0480	0.0189	0.0614	0.31
73	<i>Dolichandrone serrulata</i>	0.1727	0.0463	0.0188	0.0610	0.30
74	<i>Radermachera ignea</i>	0.1710	0.0490	0.0139	0.0529	0.29
75	<i>Gordonia dalglieshiana</i>	0.1405	0.0365	0.0175	0.0527	0.25
76	<i>Combretum punctatum</i>	0.1259	0.0354	0.0112	0.0405	0.21
77	<i>Syzygium cumini</i>	0.1199	0.0322	0.0130	0.0422	0.21
78	<i>Garuga pinnata</i>	0.1199	0.0315	0.0144	0.0442	0.21
79	<i>Shorea roxburghii</i>	0.1194	0.0334	0.0110	0.0389	0.20
80	<i>Cinnamomum iners</i>	0.1146	0.0320	0.0104	0.0373	0.19
81	<i>Vernonia volkameriifolia</i>	0.1107	0.0288	0.0140	0.0417	0.20
82	<i>Beilschmiedia gammieana</i>	0.1031	0.0264	0.0144	0.0404	0.18
83	<i>Saurauia roxburghii</i>	0.1016	0.0255	0.0152	0.0412	0.18
84	<i>Glochidion hirsutum</i>	0.1002	0.0251	0.0152	0.0409	0.18
85	<i>Artocarpus gomezianus</i>	0.0817	0.0224	0.0081	0.0277	0.14
86	<i>Pterospermum acerifolium</i>	0.0669	0.0167	0.0103	0.0274	0.12
87	<i>Semecarpus albescens</i>	0.0605	0.0134	0.0160	0.0316	0.12
88	<i>Entada rheedii</i>	0.0480	0.0127	0.0055	0.0174	0.08
89	<i>Schefflera bengalensis</i>	0.0475	0.0126	0.0055	0.0172	0.08
90	<i>Catunaregam tomentosa</i>	0.0323	0.0073	0.0072	0.0158	0.06
91	<i>Antidesma ghaesembilla</i>	0.0303	0.0073	0.0053	0.0133	0.06
92	<i>Mussaenda sanderiana</i>	0.0266	0.0062	0.0053	0.0124	0.05
93	<i>Rhus javanica</i>	0.0195	0.0043	0.0050	0.0102	0.04
94	<i>Ficus sp.</i>	0.0175	0.0044	0.0027	0.0072	0.03
95	<i>Canarium subulatum</i>	0.0121	0.0029	0.0020	0.0052	0.02
96	<i>Horsfieldia tomentosa</i>	0.0118	0.0028	0.0020	0.0051	0.02
97	<i>Protium serratum</i>	0.0073	0.0017	0.0017	0.0036	0.01
98	<i>Pavetta tomentosa</i>	0.0065	0.0015	0.0015	0.0033	0.01
99	<i>Celastrus paniculata</i>	0.0060	0.0014	0.0012	0.0028	0.01
100	<i>Melastoma malabathricum</i>	0.0055	0.0012	0.0014	0.0028	0.01
101	<i>Gmelina philippensis</i>	0.0038	0.0008	0.0012	0.0022	0.01
102	<i>Cinnamomum porrectum</i>	0.0029	0.0006	0.0012	0.0019	0.01
103	<i>Eurya acuminata</i>	0.0022	0.0005	0.0006	0.0012	0.00
Total		988	324	50	240	1,602

Table 3-16 Biomass magnesium amounts of tree species in fragmented forests

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
1	<i>Pinus kesiya</i>	73.3450	28.4120	7.3011	8.0011	117.06
2	<i>Castanopsis acuminatissima</i>	28.2488	10.3222	3.6515	3.4651	45.69
3	<i>Schima wallichii</i>	15.8199	5.6901	2.2284	2.0107	25.75
4	<i>Castanopsis diversifolia</i>	13.1771	4.9858	1.4944	1.5166	21.17
5	<i>Quercus brandisiana</i>	10.2393	3.7320	1.3423	1.2626	16.58
6	<i>Tristania rufescens</i>	7.0605	2.3550	1.4057	1.0451	11.87
7	<i>Castanopsis purpurea</i>	6.9118	2.5107	0.9217	0.8589	11.20
8	<i>Lithocarpus elegans</i>	6.0656	2.1373	0.9390	0.8040	9.95
9	<i>Engelhardtia spicata</i>	6.0639	2.1676	0.8675	0.7776	9.88
10	<i>Ternstroemia gymnanthera</i>	5.2170	1.7930	0.8882	0.7240	8.62
11	<i>Helicia terminalis</i>	4.4751	1.5708	0.7140	0.5996	7.36
12	<i>Anneslea fragrans</i>	3.5355	1.2061	0.6142	0.4962	5.85
13	<i>Dalbergia cultrata</i>	3.3955	1.1939	0.5279	0.4509	5.57
14	<i>Wendlandia tinctoria</i>	3.2754	1.0143	0.8587	0.5554	5.70
15	<i>Quercus vestita</i>	2.8246	0.9683	0.4959	0.3957	4.68
16	<i>Quercus semiserrata</i>	2.6873	0.9956	0.3301	0.3212	4.33
17	<i>Castanopsis armata</i>	1.9149	0.7854	0.1445	0.1854	3.03
18	<i>Vaccinium sprengelii</i>	1.8855	0.5730	0.5500	0.3339	3.34
19	<i>Elaeocarpus stipularis</i>	1.7691	0.6909	0.1682	0.1893	2.82
20	<i>Lithocarpus fenestratus</i>	1.7193	0.5881	0.2934	0.2398	2.84
21	<i>Glochidion acuminatum</i>	1.5691	0.5558	0.2417	0.2063	2.57
22	<i>Lithocarpus polystachyus</i>	1.2336	0.4202	0.2172	0.1739	2.04
23	<i>Phoebe paniculata</i>	1.1670	0.3926	0.2176	0.1687	1.95
24	<i>Styrax benzoides</i>	1.0524	0.3602	0.1948	0.1496	1.76
25	<i>Phoebe cathia</i>	1.0177	0.3909	0.1096	0.1138	1.63
26	<i>Callicarpa arborea</i>	1.0072	0.3377	0.1853	0.1457	1.68
27	<i>Craibiodendron stellatum</i>	0.9511	0.2974	0.2443	0.1590	1.65
28	<i>Syzygium gratum</i>	0.9415	0.3244	0.1546	0.1292	1.55
29	<i>Helicia nilagirica</i>	0.8039	0.2753	0.1375	0.1120	1.33
30	<i>Buchanania lanzan</i>	0.7956	0.3006	0.0895	0.0914	1.28
31	<i>Engelhardtia serrata</i>	0.7630	0.2774	0.0997	0.0942	1.23
32	<i>Glochidion sphaerogynum</i>	0.6008	0.1941	0.1378	0.0949	1.03
33	<i>Eurya nitida</i>	0.5999	0.1930	0.1392	0.0953	1.03
34	<i>Diospyros glandulosa</i>	0.5952	0.1991	0.1140	0.0871	1.00
35	<i>Phyllanthus emblica</i>	0.5172	0.1590	0.1488	0.0904	0.92
36	<i>Eriolaena candollei</i>	0.4786	0.1631	0.0838	0.0674	0.79
37	<i>Lithocarpus sootepensis</i>	0.4391	0.1368	0.1112	0.0734	0.76
38	<i>Dillenia aurea</i>	0.4235	0.1393	0.0862	0.0638	0.71
39	<i>Syzygium albiflorum</i>	0.3922	0.1353	0.0650	0.0538	0.65
40	<i>Aporosa villosa</i>	0.3653	0.1125	0.1012	0.0631	0.64
41	<i>Albizia odoratissima</i>	0.3631	0.1226	0.0647	0.0518	0.60
42	<i>Albizia chinensis</i>	0.3589	0.1225	0.0607	0.0500	0.59
43	<i>Terminalia chebula</i>	0.3550	0.1223	0.0591	0.0489	0.59
44	<i>Bombax anceps</i>	0.3514	0.1222	0.0548	0.0472	0.58
45	<i>Rapanea porteriana</i>	0.3162	0.1020	0.0685	0.0493	0.54
46	<i>Lindera metcalfiana</i>	0.2890	0.0963	0.0564	0.0426	0.48
47	<i>Litsea semecarpifolia</i>	0.2606	0.0887	0.0444	0.0365	0.43
48	<i>Symplocos racemosa</i>	0.2291	0.0734	0.0515	0.0363	0.39
49	<i>Embelia subcoriacea</i>	0.2253	0.0799	0.0329	0.0292	0.37
50	<i>Lithocarpus lindleyanus</i>	0.2012	0.0716	0.0282	0.0258	0.33
51	<i>Stereospermum neuranthum</i>	0.1921	0.0584	0.0548	0.0338	0.34
52	<i>Gluta usitata</i>	0.1851	0.0655	0.0264	0.0239	0.30
53	<i>Archidendron clypearia</i>	0.1821	0.0610	0.0349	0.0266	0.30

Table 3-16 (Continued)

No	Species	Magnesium (kg.ha ⁻¹)				
		Stem	Branch	Leaf	Root	Total
54	<i>Litsea glutinosa</i>	0.1810	0.0630	0.0290	0.0244	0.30
55	<i>Betula alnoides</i>	0.1504	0.0505	0.0271	0.0216	0.25
56	<i>Olea salicifolia</i>	0.1204	0.0400	0.0233	0.0178	0.20
57	<i>Erythrina subumbrans</i>	0.1185	0.0394	0.0229	0.0175	0.20
58	<i>Ampelocissus martinii</i>	0.1169	0.0371	0.0270	0.0188	0.20
59	<i>Sarcosperma arboreum</i>	0.1065	0.0362	0.0185	0.0150	0.18
60	<i>Vitex pinnata</i>	0.1011	0.0344	0.0170	0.0141	0.17
61	<i>Magnolia henryi</i>	0.0928	0.0301	0.0194	0.0143	0.16
62	<i>Ilex umbellulata</i>	0.0824	0.0253	0.0225	0.0143	0.14
63	<i>Gardenia sootepensis</i>	0.0790	0.0249	0.0190	0.0129	0.14
64	<i>Kydia calycina</i>	0.0773	0.0259	0.0140	0.0111	0.13
65	<i>Turpinia cochinchinensis</i>	0.0756	0.0227	0.0230	0.0136	0.13
66	<i>Viburnum sambucinum</i>	0.0726	0.0200	0.0325	0.0156	0.14
67	<i>Pyrenaria diospyricarpa</i>	0.0725	0.0204	0.0286	0.0149	0.14
68	<i>Quercus kingiana</i>	0.0605	0.0182	0.0177	0.0108	0.11
69	<i>Colona flagrocarpa</i>	0.0531	0.0166	0.0128	0.0087	0.09
70	<i>Millettia pachycarpa</i>	0.0494	0.0154	0.0123	0.0082	0.09
71	<i>Dalbergia velutina</i>	0.0414	0.0133	0.0092	0.0065	0.07
72	<i>Trichilla connaroides</i>	0.0395	0.0120	0.0113	0.0070	0.07
73	<i>Dolichandrone serrulata</i>	0.0386	0.0116	0.0113	0.0069	0.07
74	<i>Radermachera ignea</i>	0.0382	0.0123	0.0084	0.0060	0.06
75	<i>Gordonia dalglieshiana</i>	0.0314	0.0091	0.0105	0.0060	0.06
76	<i>Combretum punctatum</i>	0.0282	0.0088	0.0067	0.0046	0.05
77	<i>Syzygium cumini</i>	0.0268	0.0080	0.0078	0.0048	0.05
78	<i>Garuga pinnata</i>	0.0268	0.0079	0.0086	0.0050	0.05
79	<i>Shorea roxburghii</i>	0.0267	0.0083	0.0066	0.0044	0.05
80	<i>Cinnamomum iners</i>	0.0256	0.0080	0.0063	0.0042	0.04
81	<i>Vernonia volkameriifolia</i>	0.0248	0.0072	0.0084	0.0047	0.05
82	<i>Beilschmiedia gammieana</i>	0.0231	0.0066	0.0087	0.0046	0.04
83	<i>Saurauia roxburghii</i>	0.0227	0.0064	0.0091	0.0047	0.04
84	<i>Glochidion hirsutum</i>	0.0224	0.0063	0.0091	0.0046	0.04
85	<i>Artocarpus gomezianus</i>	0.0183	0.0056	0.0049	0.0032	0.03
86	<i>Pterospermum acerifolium</i>	0.0150	0.0042	0.0062	0.0031	0.03
87	<i>Semecarpus albescens</i>	0.0135	0.0034	0.0096	0.0036	0.03
88	<i>Entada rheedii</i>	0.0107	0.0032	0.0033	0.0020	0.02
89	<i>Schefflera bengalensis</i>	0.0106	0.0031	0.0033	0.0020	0.02
90	<i>Catunaregam tomentosa</i>	0.0072	0.0018	0.0043	0.0018	0.02
91	<i>Antidesma ghaesembilla</i>	0.0068	0.0018	0.0032	0.0015	0.01
92	<i>Mussaenda sanderiana</i>	0.0060	0.0016	0.0032	0.0014	0.01
93	<i>Rhus javanica</i>	0.0044	0.0011	0.0030	0.0012	0.01
94	<i>Ficus sp.</i>	0.0039	0.0011	0.0016	0.0008	0.01
95	<i>Canarium subulatum</i>	0.0027	0.0007	0.0012	0.0006	0.01
96	<i>Horsfieldia tomentosa</i>	0.0026	0.0007	0.0012	0.0006	0.01
97	<i>Protium serratum</i>	0.0016	0.0004	0.0010	0.0004	0.00
98	<i>Pavetta tomentosa</i>	0.0015	0.0004	0.0009	0.0004	0.00
99	<i>Celastrus paniculata</i>	0.0013	0.0003	0.0007	0.0003	0.00
100	<i>Melastoma malabathricum</i>	0.0012	0.0003	0.0008	0.0003	0.00
101	<i>Gmelina philippensis</i>	0.0008	0.0002	0.0007	0.0002	0.00
102	<i>Cinnamomum porrectum</i>	0.0006	0.0001	0.0007	0.0002	0.00
103	<i>Eurya acuminata</i>	0.0005	0.0001	0.0004	0.0001	0.00
Total		221	81	30	27	359

3.4 Discussion

The storages of carbon and nutrients in tree biomass in a series of pine plantations depended on biomass allocation in pine trees and succession tree species. The rate of nutrient accumulations by the plantation is a function of the rate of growth, development stage and the availability of soil nutrients and water. The nutrient cycling involving recycling through litterfall, storage and litter decomposition in forest floor, nutrient availability and storage in soil, plant uptake and accumulation in tree biomass will be altered during stand development (Miller, 1984). However, the stored carbon and nutrients in pine biomass of 14- to 34-year-old plantations did not increase with stand ages. As same to the biomass, many factors including densities of pine and succession trees, site factors and forest fire were influenced on pine growths in this study. These factors affected tree growths, and allocation of carbon and nutrients.

Phumijamnon (2007) reported that amounts of carbon stored in above-ground biomass of teak with planting space of 4 x 4 m² in plantations of 10, 14, 18, 27 and 28 years old were increased with stand ages. The amounts were 7.90, 12.10, 11.14, 60.32 and 77.3 Mg.ha⁻¹, respectively. In this study, the pine plantations of 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33 and 34 years old had carbon stocks in above-ground biomass in the order of 24, 10, 50, 10, 9, 46, 53, 55, 36, 28, 34, 45, 74, 45, 52, 28, 51, 30, 58, 86 and 40 Mg.ha⁻¹. The densities of pine trees were different among plantations, 75-429 trees.ha⁻¹. The 9-year-old poplar plantation in Canada had above-ground biomass carbon as 39.6 Mg.ha⁻¹ which is higher than 14-year-old *Pinus kesiya* and 10-year-old teak plantations (Arevalo *et al.*, 2009).

Total biomass carbon in 36-year-old *Pseudotsuga menziesii*, 40-year-old *Picea glauca*, 45-year-old *Pinus sylvestris*, 55-year-old *Betula verrucosa* and 150-year-old *Quercus alba* were 102.3, 92.4, 47.6, 107.8 and 141.4 Mg.ha⁻¹, respectively (van den Driessche, 1989). In this research, the oldest *P. kesiya* plantation of 34-year-old had the amount of 49.0 Mg.ha⁻¹ which was higher than 45-year-old *P. sylvestris*. However, the highest amount as 106.0 Mg.ha⁻¹ was found in 33-year-old *P. kesiya* plantation. The most abundant fragmented forest in watershed had the higher biomass carbon of 125 Mg.ha⁻¹.

References on accumulations of other nutrients in tree biomass of plantation and natural forests are rarely available.

For biomass nitrogen, the amounts in 36-year-old *Pseudotsuga menziesii*, 40-year-old *Picea glauca*, 45-year-old *Pinus sylvestris*, 55-year-old *Betula verrucosa* and 150-year-old *Quercus alba* were 320.0, 449.0, 186.0, 543.0 and 631.0 kg.ha⁻¹, respectively (van den Driessche, 1989). In this research, the 34-year-old *P. kesiya* had the amount of 225 kg.ha⁻¹ which was higher than 45-year-old *P. sylvestris*. The highest amount as 490.0 kg.ha⁻¹ was found in 33-year-old *P. kesiya* plantation. The most abundant fragmented forest in watershed had the higher biomass nitrogen, 1,384 kg.ha⁻¹.

For biomass phosphorus, the amounts in 36-year-old *Pseudotsuga menziesii*, 40-year-old *Picea glauca*, 45-year-old *Pinus sylvestris*, 55-year-old *Betula verrucosa* and 150-year-old *Quercus alba* were 66.0, 64.0, 21.0, 34.0 and 41.0 kg.ha⁻¹, respectively (van den Driessche, 1989). In this research, the 34-year-old *P. kesiya* had the amount of 26 kg.ha⁻¹ which was higher than 45-year-old *P. sylvestris*. The highest amount as 58.0

kg.ha⁻¹ was found in 33-year-old *P. kesiya* plantation. The most abundant fragmented forest in watershed had the higher biomass phosphorus, 195 kg.ha⁻¹.

For biomass potassium, the amounts in 36-year-old *Pseudotsuga menziesii*, 40-year-old *Picea glauca*, 45-year-old *Pinus sylvestris*, 55-year-old *Betula verrucosa* and 150-year-old *Quercus alba* were 220.0, 254.0, 96.0, 200.0 and 419.0 kg.ha⁻¹, respectively (van den Driessche, 1989). In this research, the 34-year-old *P. kesiya* had the amount of 165.0 kg.ha⁻¹ which was higher than 45-year-old *P. sylvestris*. The highest amount as 362.0 kg.ha⁻¹ was found in 33-year-old *P. kesiya* plantation. The most abundant fragmented forest in watershed had the higher biomass potassium, 948 kg.ha⁻¹.

For biomass calcium, the amounts in 36-year-old *Pseudotsuga menziesii*, 40-year-old *Picea glauca*, 45-year-old *Pinus sylvestris*, 55-year-old *Betula verrucosa* and 150-year-old *Quercus alba* were 333.0, 809.0, 123.0, 651.0 and 2,029.0 kg.ha⁻¹, respectively (van den Driessche, 1989). In this research, the 34-year-old *P. kesiya* had the amount of 287.0 kg.ha⁻¹ which was higher than 45-year-old *P. sylvestris*. The highest amount as 627.0 kg.ha⁻¹ was found in 33-year-old *P. kesiya* plantation. The most abundant fragmented forest in watershed had the higher biomass calcium of 1,883 kg.ha⁻¹.

For biomass magnesium, the 34-year-old *P. kesiya* had the amount of 168.0 kg.ha⁻¹, and the highest amount as 360.0 kg.ha⁻¹ was found in 33-year-old stand. The most abundant fragmented forest in watershed had the higher biomass magnesium, 451 kg.ha⁻¹.

The succession tree species in different age pine plantations had the variable contribution to plantation carbon and nutrient storages. The carbon amount was in range of 6-69 Mg.ha⁻¹, whereas those of nitrogen, phosphorus, potassium, calcium and magnesium were in the order of 65-765, 9-107, 44-523, 94-1,113 and 21-249 kg.ha⁻¹. Therefore, the natural succession in *Pinus kesiya* plantations is very important for increasing biomass carbon and nutrient stocks.