

Table 1. Mineral composition of leaf litter of Nokrek biosphere tree species (Mean values of three replicates).

Name of species	Density (g cc ⁻¹)	Water holding capacity (%)	Ash (%)	Total Carbon (%)	Total Nitrogen (%)	C/N Ratio	P ₂ O ₅ (%)	Ca (%)	Mg (%)	Na (%)	K (%)
<i>Lithocarpus elegans</i>	0.430	427	5.0	46.8	2.72	17.2	0.562	3.46	1.96	0.314	0.712
<i>Quercus leucotricophora</i>	0.488	339	4.9	49.5	2.56	19.3	0.614	2.82	1.85	0.285	0.584
<i>Macaranga denticulate</i>	0.614	532	7.8	46.8	2.48	19.6	0.496	3.46	2.15	0.342	0.601
<i>Schima wallichii</i>	0.554	372	2.8	45.9	1.62	28.3	0.342	1.86	0.98	0.162	0.203
<i>Quercus semiserrata</i>	0.508	395	4.0	48.9	2.05	23.8	0.582	3.36	2.16	0.314	0.418
<i>Sterculia villosa</i>	0.578	466	24.0	36.3	1.95	18.5	0.462	2.06	1.82	0.284	0.426
<i>Polyalthia simiarum</i>	0.552	344	7.0	48.9	2.60	18.8	0.497	1.40	0.84	0.314	0.432
<i>Persea duthiei</i>	0.392	416	8.4	46.8	2.04	22.9	0.501	1.68	0.92	0.241	0.463
<i>Terminalia bellirica</i>	0.543	350	9.6	38.1	1.86	20.4	0.482	4.48	2.54	0.281	0.515
<i>Ficus laevis</i>	0.450	579	7.0	39.6	1.96	20.2	0.518	2.72	1.82	0.192	0.284
<i>Persea glaucescens</i>	0.402	428	9.2	44.1	2.14	20.6	0.510	2.56	1.72	0.240	0.482
<i>Duabanga grandiflora</i>	0.553	339	8.5	38.4	1.86	20.8	0.485	3.04	2.04	0.214	0.510
<i>Engelhardia spicata</i>	0.535	401	2.2	46.2	1.92	24.1	0.362	1.68	0.85	0.106	0.282
<i>Shorea robusta</i>	0.471	561	4.0	45.6	2.04	22.3	0.401	1.44	0.92	0.117	0.301
<i>Stereospermum chelonoides</i>	0.529	408	20.3	35.4	2.46	14.4	0.610	2.94	1.25	0.416	0.682
<i>Dellenia pentagyna</i>	0.517	435	12.3	36.2	2.16	16.7	0.562	2.24	1.96	0.264	0.301
<i>Artocarpus lacucha</i>	0.482	329	11.6	38.7	2.62	14.8	0.621	3.20	2.10	0.310	0.516
<i>Derris marginata</i>	0.519	460	10.4	34.2	1.88	18.2	0.486	2.72	1.65	0.294	0.520
	0.507	421.1	8.8	42.5	2.16	20.0	0.50	2.26	1.64	0.26	0.45
	± 0.01	± 17.3	± 1.3	± 1.2	± 0.07	± 0.7	± 0.02	± 0.19	± 0.12	± 0.01	± 0.03

*Values are the composited mean ± standard error (SE) of the parameter.

Table 3. Physico-chemical properties of experimental soil after five months of inoculation with different leaf litter (Mean of three replicates).

Physico-chemical compositions	Control	Dose @ 50 tonnes ha ⁻¹					Value of composite mean \pm SE	Dose @ 125 tonnes ha ⁻¹					Value of composite mean \pm SE
		1	2	3	4	5		1	2	3	4	5	
Organic carbon (%)	0.498	1.386	1.358	1.294	1.326	1.372	1.334 \pm 0.015	2.014	1.946	1.652	1.946	1.854	1.883 \pm 0.025
Porosity (%)	39.20	47.8	46.9	48.2	47.3	46.5	47.3 \pm 0.2	49.2	49.4	48.9	49.0	48.6	49.0 \pm 0.1
Water holding capacity (%)	37.52	49.5	49.2	52.6	48.9	49.6	49.9 \pm 0.3	58.4	57.6	61.2	58.0	59.2	58.8 \pm 0.2
Available nitrogen (%)	0.044	0.126	0.098	0.116	0.094	0.108	0.108 \pm 0.002	0.138	0.119	0.132	0.122	0.120	0.126 \pm 0.001
Available P ₂ O ₅ (%)	0.003	0.004	0.004	0.005	0.005	0.003	0.0042 \pm 0.0002	0.005	0.006	0.006	0.004	0.005	0.005 \pm 0.0002
Cation Exchange Capacity (m.e.100g ⁻¹)	13.95	21.2	20.9	22.0	19.8	21.2	21.0 \pm 0.2	24.4	23.6	23.8	21.7	24.1	23.4 \pm 0.2
Exchangeable Calcium (m.e. 100g ⁻¹)	4.02	7.2	7.9	8.2	6.4	6.9	7.29 \pm 0.183	8.4	8.6	9.2	7.8	8.0	7.8 \pm 0.175
pH	5.0	6.5	6.3	7.0	6.8	6.9	6.7 \pm 0.07	6.9	6.8	7.2	7.0	7.0	6.9 \pm 0.04
Electrical conductivity (mill.mhos cm ⁻¹) at 25°C	0.29	0.65	0.64	0.84	0.59	0.64	0.672 \pm 0.014	0.92	0.94	1.1	0.89	0.92	0.955 \pm 0.014

A. Name of Leaf Litter : (1) *Quercus leucotricophora*, (2) *Quercus semiserrata*, (3) *Macaranga denticulata*, (4) *Polyalthia simiarum*, (5) *Persea duthei*.

B. The significance of difference between control and both doses separately are evaluated statistically using Student t-test and each value has been observed highly significant at 0.1% level of significance.

Table 1. Enzyme activities in the gut of *L. mauritii* and *E. eugeniae* reared on different substrates.

Rearing Substrates	Amylase				Cellulase				Protease				Acid phosphatase				Alkaline phosphatase			
	Pre-CS	Early-CS	Late-CS	Substrate mean	Pre-CS	Early-CS	Late-CS	Substrate mean	Pre-CS	Early-CS	Late-CS	Substrate mean	Pre-CS	Early-CS	Late-CS	Substrate mean	Pre-CS	Early-CS	Late-CS	Substrate mean
<i>L. mauritii</i>																				
CLS	13.15a	19.63a	22.28a	18.35d	1.13a	2.93b	3.52bc	2.52	1.95a	2.56a	3.74a	2.75c	1.24a	1.85a	2.23a	1.77f	0.90a	1.48abc	2.18cd	1.52f
SD	11.80a	18.32a	20.86a	16.99d	5.37d	7.85e	8.21e	7.14	1.84a	2.44a	3.54a	2.61c	1.14a	1.76a	2.16a	1.69f	0.84a	1.25ab	1.96cd	1.35f
PM	26.16a	51.36bc	63.74c	47.09e	1.50a	3.25bc	4.05c	2.94f	3.43a	7.44b	8.35b	6.41d	2.19a	3.88bc	4.36cd	3.48g	1.68bcd	2.37d	3.50e	2.52
SD-PM	30.42ab	54.14bc	70.66c	51.74e	3.16bc	5.45d	6.85	5.15	3.88a	7.84b	8.86b	6.86d	2.66ab	4.55de	5.90e	4.37g	2.19d	3.50e	4.19e	3.29
Stage mean	20.38f	35.86fg	44.38g		2.79	4.87g	5.66g		2.78e	5.07ef	6.12f		1.81h	3.01hi	3.66i		1.40	2.15	2.96	
CDI-Value		23.92				0.91				3.02				1.51				0.69		
CDR-Value		14.48				0.55				1.83				0.92				0.42		
CDC-Value		20.76				0.79				2.63				1.31				0.60		
<i>E. eugeniae</i>																				
CLS	16.24a	26.03a	31.33a	24.53c	1.67a	3.74b	4.21b	3.21	2.31c	3.87ab	4.13ab	3.44d	1.83a	2.33a	3.00ab	2.39e	1.19a	2.07ab	2.85bc	2.04e
SD	15.70a	24.73a	29.19a	23.21c	6.40c	8.92	9.65	8.32	2.15a	3.64ab	4.23ab	3.34d	1.73a	2.18a	2.95ab	2.29e	1.17a	2.02ab	2.54bc	1.91e
PM	33.65a	67.16b	79.46b	60.09d	2.27a	4.07b	4.99	3.78	4.24ab	8.45c	9.86c	7.13e	2.56ab	4.22bc	5.75cd	4.18f	2.13a	3.50cd	4.55d	3.39
SD-PM	39.64a	73.16b	84.72b	65.84d	4.25b	6.71c	7.60	6.18	5.15	9.34c	10.44c	8.31e	3.13ab	5.43cd	6.64d	5.07f	2.63bc	4.50d	6.06	4.40
Stage mean	26.31e	47.77ef	56.18f		3.65	5.86	6.61		3.46	6.32f	7.16		2.31g	3.54gh	4.58h		1.78	3.02f	4.00f	
CDI-Value		25.93				0.63				2.92				1.78				1.27		
CDR-Value		15.70				0.38				1.76				1.07				0.76		
CDC-Value		22.50				0.55				2.53				1.54				1.10		

Data represents mean value of six observations

Note : Means followed same letters are not significantly different. The significance was tested at 0.05% level.

Code : CDI – Critical difference for interaction; CDR – Critical difference for rows; CDC – Critical difference for columns; CS – Clitellate stage.