

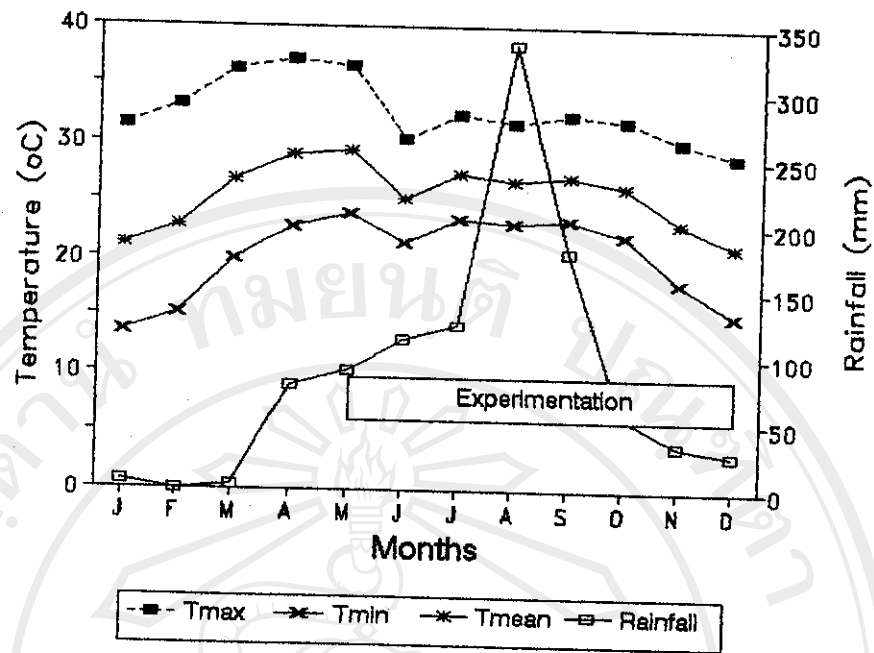


**APPENDIX**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright© by Chiang Mai University

All rights reserved



Appendix Figure 1. Meteorological data at the experimental station Chiang Mai, Thailand in 1991.

Appendix Table 1. Meteorological data at the experimental station, Chiang Mai, Thailand in 1991.

MONTH	Tmax (°C)	Tmin (°C)	Tmean (°C)	Rainfall (mm)	Sunshine (h/d)
January	31.40	13.50	21.10	6.10	8.90
February	33.20	15.20	22.90	0.00	9.20
March	36.30	19.90	26.90	3.00	8.20
April	37.10	22.80	29.00	78.00	8.00
May	36.60	23.90	29.40	89.70	8.50
June	30.40	21.40	25.20	112.90	3.10
July	32.40	23.50	27.30	123.80	2.90
August	31.70	23.10	26.80	336.10	2.90
September	32.40	23.40	27.20	179.40	4.30
October	32.00	22.10	26.30	55.50	5.80
November	30.20	18.00	23.20	34.10	7.30
December	29.00	15.20	21.10	26.90	6.70

Source: Resources and Environmental management, Soil science Department, Faculty of Agriculture, Chaing Mai University, Thailand.

20 m  
10 m

P2D2	P3D1
P1D1	P0
P2D0	P1D0
P3D2	P1D2
P3D0	P2D1

4 m

20 m

REP I

P2D1	P1D2
P3D0	P3D2
P3D1	P2D2
P0	P1D1
P1D0	P2D0

Notes:

- D<sub>0</sub> : Sowing *Sesbania* 30 days before transplanting rice
- D<sub>1</sub> : Sowing *Sesbania* at the time of transplanting rice
- D<sub>2</sub> : Sowing *Sesbania* at 30 days after transplanting rice

- P<sub>0</sub> : Sole rice
- P<sub>1</sub> : 75 % Rice + 25 % *Sesbania*
- P<sub>2</sub> : 50 % Rice + 50 % *Sesbania*
- P<sub>3</sub> : Sole *Sesbania*

REP II

P2D0	P0
P1D2	P2D2
P3D2	P2D1
P3D1	P1D0
P1D1	P3D0

Design: Replacement series, Factorial experiment in Randomized Complete Block Design

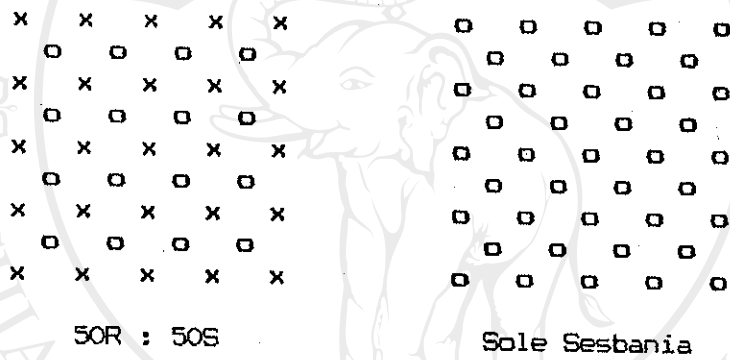
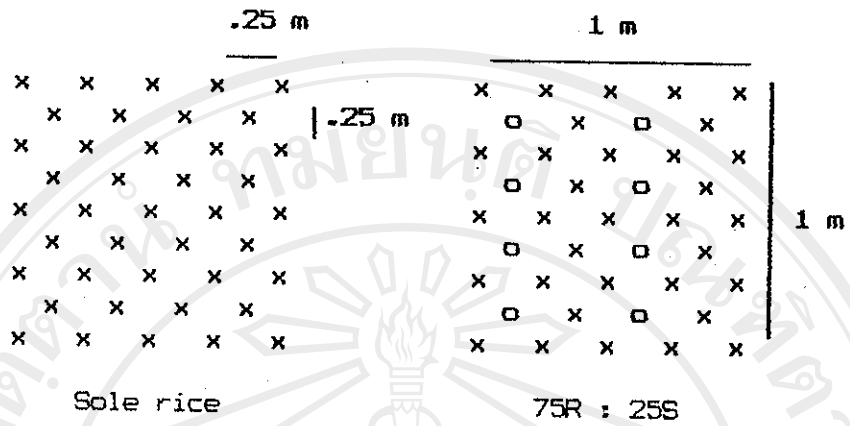
REP III

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Appendix Figure 2. Layout of the field experiment.

Copyright © by Chiang Mai University

All rights reserved



x : Rice (1 seedling/hill)    o : Sesbania (1 plant/hill)

Appendix Figure 3. Crop arrangement in intercropping

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
 Copyright© by Chiang Mai University  
 All rights reserved

Appendix Table 2. Analysis of Soil on which the experiment was carried out.

Property	pH	N (%)	P <sub>2</sub> O <sub>5</sub> (ppm)	K <sub>2</sub> O (ppm)	OM (%)
(a) Soil samples before setting the experiment					
Plot A	6.17	0.055	73.65	45.00	1.03
Plot B	5.71	0.062	65.83	67.50	1.12
Mean	5.94	0.059	69.74	56.25	1.08
(b) Soil samples after harvesting rice and Sesbania					
SIMULTANEOUS					
Sole rice	5.90	0.049	60.62	23.33	0.97
75%Rice:25%Ses.	5.96	0.052	73.23	25.00	0.98
50%Rice:50%Ses.	5.80	0.051	64.90	26.67	0.98
Sole Sesbania	5.88	0.052	57.92	23.33	1.00
INTERMEDIATE					
Sole rice	5.90	0.049	60.62	23.33	0.97
75%Rice:25%Ses.	6.01	0.050	62.29	28.33	0.95
50%Rice:50%Ses.	5.92	0.052	63.75	24.17	0.97
Sole Sesbania	5.90	0.051	54.48	31.67	0.98
LATE SOWING					
Sole rice	5.90	0.049	60.62	23.33	0.97
75%Rice:25%Ses.	5.90	0.052	56.56	23.33	0.99
50%Rice:50%Ses.	5.94	0.051	70.31	30.83	0.92
Sole Sesbania	5.78	0.046	59.48	28.33	0.87
LSD .05	ns	ns	ns	ns	ns
CV (%)	2.04	6.06	18.65	16.13	6.00

Appendix Table 3. ANOVA of some soil properties after experimentation.

Source of Variation	df	pH		Nitrogen		Phosphorus		Potassium		Organic matter	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	8.18E-02	0.01	5.10E-04	0.00	3.21E+02	0.09	3.13E+02	0.00	9.20E-02	0.00
Pro. (B)	3	1.63E-02	0.29	1.80E-05	0.12	1.41E+02	0.34	3.59E+01	0.13	9.60E-04	0.80
Date (C)	2	1.03E-02	0.45	6.00E-05	0.51	4.62E+01	0.69	1.79E+01	0.36	5.80E-03	0.16
BxC	6	9.00E-04	0.62	9.90E-06	0.37	7.52E+01	0.71	2.95E+01	0.16	4.20E-03	0.25
Error	22	1.23E-02		8.60E-06		1.22E+02		1.68E+01		2.90E-03	

ANOVA : Analysis of Variance, df : Degree of freedom, MS : Mean Square,  
P : Probability, REP : Replication, Pro. : Proportion of Sesbania intercropped,  
Date : Date of Sesbania introduction

Appendix Table 4. ANOVA of tiller numbers/hill of rice varried with time.

Source of Variation	df	15		30		45		60		75	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	6.70E-01	0.34	1.37E+00	0.54	7.14E+00	0.00	4.90E-01	0.66	7.80E-02	0.85
Treatment	6	1.82E+00	0.04	1.31E+01	0.00	1.00E+01	0.00	5.04E+00	0.01	8.37E+00	0.00
Error	12	5.80E-01		2.10E+00		1.00E+00		1.13E+00		4.90E-01	

Appendix Table 5. ANOVA of plant height (cm) of rice varried with time.

Source of Variation	df	15		30		45		60		75	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	4.90E+00	0.48	9.93E+00	0.17	3.76E+01	0.14	3.98E+01	0.54	2.07E+01	0.52
Treatment	6	5.07E+00	0.58	5.66E+01	0.00	3.46E+02	0.00	4.37E+01	0.65	2.27E+02	0.00
Error	12	6.28E+00		4.76E+00		1.64E+01		6.20E+01		3.01E+01	

Copyright © by Chiang Mai University  
All rights reserved

Appendix Table 6. ANOVA of leaf area index of rice varried with time.

Source of Variation	df	20		30		45		60		75	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	4.46E-02	0.15	6.90E-02	0.05	6.09E-01	0.01	5.86E-02	0.91	1.35E-03	0.99
Treatment	6	1.80E-01	0.00	1.48E-01	0.00	2.32E-01	0.07	4.09E-01	0.67	1.76E-01	0.52
Error	12	2.02E-02		1.84E-02		8.89E-02		5.98E-01		1.93E-01	

Appendix Table 7. ANOVA of light penetration on top of rice (% from max. light interception) varried with time.

Source of Variation	df	30		45		60		75		90	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	6.65E+01	0.27	1.59E+02	0.05	9.94E+02	0.02	1.34E+03	0.03	819.4	0.01
Treatment	6	2.64E+03	0.00	4.90E+03	0.00	3.72E+03	0.00	2.63E+03	0.00	2138.6	0.00
Error	12	4.53E+01		4.21E+01		1.95E+02		2.94E+02		109.5	

Appendix Table 8. ANOVA of total dry matter (t/ha) of rice varried with time.

Source of Variation	df	30		45		60		75		90	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	1.14E-01	0.01	3.37E-01	0.16	4.11E-01	0.43	4.30E+00	0.01	8.52E-01	0.48
Treatment	6	1.53E-01	0.00	1.63E+00	0.00	9.80E+00	0.00	1.50E+01	0.00	1.46E+01	0.00
Error	12	1.49E-02		1.60E-01		4.50E-01		5.20E-01		1.08E+00	



Appendix Table 9. ANOVA of yield and yield components of rice.

Source of Variation	df	Panicles/m <sup>2</sup>		Spikelets/pan.		% filled grains		1000grainweight		Grain yield	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	2.42E+02	0.55	7.45E+02	0.19	4.40E+02	0.16	1.24E+01	0.03	2.61E-01	0.39
Treatment	6	7.26E+03	0.00	1.98E+03	0.00	7.63E+02	0.03	1.65E+01	0.00	5.30E+00	0.00
Error	12	3.80E+02		3.97E+02		2.09E+02		2.56E+00		2.60E-01	

Appendix Table 10. ANOVA of N-content (%) and N-yield (kg/ha) of rice.

Source of Variation	df	NITROGEN CONTENT IN RICE				NITROGEN YIELD OF RICE				total	
		in straw		in grain		in straw		in grain			
		MS	P	MS	P	MS	P	MS	P		
REP (A)	2	2.70E-01	0.04	1.66E-01	0.05	5.74E+01	0.33	4.11E+01	0.41	4.34E+01	0.62
Treatment	6	6.00E-01	0.00	3.64E-01	0.00	1.06E+02	0.11	5.91E+02	0.00	3.46E+02	0.02
Error	12	6.20E-02		4.10E-02		4.78E+01		4.24E+01		8.70E+01	

Appendix Table 11. ANOVA of plant height (cm) of *S. rostrata* varried with time.

Source of Variation	df	30		45		60		75		90	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	2.06E+02	0.03	7.10E+02	0.00	1.49E+03	0.06	5.45E+03	0.00	3.97E+03	0.00
Pro. (B)	2	1.47E+01	0.73	2.50E+02	0.06	1.02E+02	0.79	4.24E+02	0.26	7.91E+01	0.80
Date (C)	2	2.75E+04	0.00	1.04E+05	0.00	1.01E+05	0.00	7.96E+04	0.00	5.86E+04	0.00
B×C	4	2.65E+01	0.69	1.81E+02	0.08	8.99E+01	0.93	3.26E+02	0.39	9.97E+01	0.88
Error	16	4.63E+01		7.20E+01		4.29E+02		2.96E+02		3.42E+02	

ANOVA : Analysis of Variance, df : Degree of freedom, MS : Mean Square,  
P : Probability, REP : Replication, Pro. : Proportion of Sesbania intercropped,  
Date : Date of Sesbania introduction



Appendix Table 12. ANOVA of yield and yield components of *S. rostrata*.

Source of Variation	df	Pods/m <sup>2</sup>		Seeds/pod		% Shelling		1000seed weight		Seed yield	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	5.05E+04	0.01	6.96E+00	0.30	2.09E+01	0.09	2.58E+01	0.00	1.78E+00	0.01
Pro. (B)	2	1.61E+05	0.00	1.66E+01	0.07	1.92E+02	0.00	2.00E+01	0.26	5.03E+00	0.80
Date (C)	2	3.38E+05	0.00	1.45E+02	0.00	6.08E+02	0.00	8.97E+01	0.00	1.60E+01	0.00
B×C	4	1.48E+04	0.17	1.84E+01	0.03	9.39E+01	0.00	1.64E+01	0.00	5.70E-01	0.15
Error	16	8.15E+03		5.34E+00		7.30E+00		2.08E+00		2.90E-01	

Appendix Table 13. ANOVA of dry matter of *S. rostrata* at final harvest.

Source of Variation	df	In leaf		In nodule		In stem		Total	
		MS	P	MS	P	MS	P	MS	P
REP (A)	2	1.09E+05	0.03	2.37E+03	0.14	2.59E+07	0.01	2.93E+07	0.01
Pro. (B)	2	2.62E+05	0.00	2.55E+04	0.00	7.00E+07	0.00	8.17E+07	0.00
Date (C)	2	7.95E+04	0.06	5.13E+04	0.00	2.75E+08	0.00	2.88E+08	0.00
B×C	4	3.75E+04	0.22	1.45E+03	0.29	8.16E+06	0.16	7.87E+06	0.21
Error	16	2.35E+04		1.05E+03		4.26E+06		4.78E+06	

Appendix Table 14. ANOVA of nitrogen content (%) of *S. rostrata* at harvest of rice.

Source of Variation	df	In leaf		In stem		In seed	
		MS	P	MS	P	MS	P
REP (A)	2	3.06E-01	0.32	2.91E-01	0.04	2.10E-01	0.06
Pro. (B)	2	9.80E-02	0.68	1.13E-01	0.23	1.08E-01	0.21
Date (C)	2	1.72E+00	0.01	2.54E+00	0.00	1.42E+00	0.00
B×C	4	1.21E-01	0.75	1.74E-01	0.09	2.22E-01	0.03
Error	16	2.50E-01		7.10E-02		6.40E-02	

Appendix Table 15. ANOVA of nitrogen yield and N-fixation (kg/ha) of *S. rostrata* at harvest of rice.

Source of Variation	df	From leaf		From stem		From seed		Total		N-fixed	
		MS	P	MS	P	MS	P	MS	P	MS	P
		REP (A)	2	1.11E+02	0.11	1.97E+04	0.01	5.86E+03	0.01	4.99E+04	0.00
Pro. (B)	2	4.83E+02	0.00	2.56E+04	0.00	1.29E+04	0.00	8.70E+04	0.00	3.99E+04	0.01
Date (C)	2	6.44E+01	0.26	4.70E+04	0.00	4.38E+04	0.00	1.87E+05	0.00	1.75E+05	0.00
B+C	4	8.01E+01	0.17	2.84E+03	0.44	1.55E+03	0.16	5.12E+03	0.48	4.29E+03	0.55
Error	16	4.41E+01		2.85E+03		8.16E+02		5.61E+03		5.41E+03	

Appendix Table 16. ANOVA of nitrogen yield and N-balance (kg/ha) of the whole systems.

Source of Variation	df	NITROGEN YIELD						N-BALANCE			
		From straw		From seed		Total		All returned		Leaves returned	
		MS	P	MS	P	MS	P	MS	P	MS	P
REP (A)	2	2.21E+04	0.01	5.18E+03	0.00	4.67E+04	0.00	2.04E+04	0.01	1.15E+02	0.28
Treatment	9	2.18E+04	0.00	1.10E+04	0.00	6.28E+04	0.00	2.18E+04	0.00	4.62E+02	0.00
Error	18	3.12E+03		6.79E+04		5.35E+03		3.12E+03		8.42E+01	

Appendix Table 17. Plant height (cm) of rice at different stages.

Treatment	Days after transplanting						
	15	20	30	45	60	75	90
P0	39.33	48.56	51.00	64.00	105.00	112.78	112.78
P1D0	39.78	49.22	59.00	84.89	107.78	103.56	103.56
P1D1	40.44	46.11	54.11	72.56	108.89	115.89	115.89
P1D2	41.22	47.44	51.33	64.87	111.33	111.33	111.33
P2D0	41.56	49.89	62.33	91.56	101.22	99.33	99.33
P2D1	38.11	45.56	52.78	70.33	112.33	125.11	125.11
P2D2	38.56	48.33	52.00	66.00	109.33	117.89	117.89
P3D0	-	-	-	-	-	-	-
P3D1	-	-	-	-	-	-	-
P3D2	-	-	-	-	-	-	-
Mean	27.90	33.51	38.26	51.40	75.59	78.59	78.59

Appendix Table 18. Tiller number/hill of rice at different stages.

Treatment	Days after transplanting						
	15	20	30	45	60	75	90
P0	7.56	7.58	9.33	7.22	7.00	6.23	6.23
P1D0	7.44	8.64	9.78	6.44	6.33	5.57	5.57
P1D1	7.44	8.38	12.89	9.22	8.23	7.27	7.27
P1D2	8.11	8.31	12.00	8.22	7.50	6.90	6.90
P2D0	8.44	8.73	9.89	6.78	6.53	5.70	5.70
P2D1	8.89	9.71	13.11	10.44	8.93	9.83	9.83
P2D2	9.44	9.81	14.89	11.11	9.83	9.17	9.17
P3D0	-	-	-	-	-	-	-
P3D1	-	-	-	-	-	-	-
P3D2	-	-	-	-	-	-	-
Mean	8.19	8.74	11.70	8.49	7.77	7.24	7.24

Appendix Table 19. Plant height (cm) of *S. rostrata* at different stages.

Treatment	Days after transplanting						
	15	20	30	45	60	75	90
P0	-	-	-	-	-	-	-
P1D0	40.33	59.67	104.33	213.11	252.56	266.44	272.44
P1D1	10.81	18.56	33.00	78.33	127.89	151.44	180.89
P1D2	0.00	0.00	0.00	11.78	33.33	75.56	118.56
P2D0	40.67	55.56	105.22	228.56	244.11	264.67	279.67
P2D1	11.22	18.22	30.00	73.11	126.44	185.11	196.00
P2D2	0.00	0.00	0.00	11.78	35.56	81.89	111.11
P3D0	39.89	61.78	112.44	227.55	246.33	258.00	272.44
P3D1	10.44	16.56	30.22	94.89	141.44	172.78	187.00
P3D2	0.00	0.00	0.00	11.78	38.33	67.56	111.44
Mean	17.02	25.59	46.14	105.65	138.44	169.27	192.17

Appendix Table 20. Light interception ( $\mu\text{E}/\text{m}^2/\text{s}$ ) at different stages.

TREATMENT	DAYS AFTER TRANSPLANTING				
	30	45	60	75	90
(a) on top of Sesbania					
P0	-	-	-	-	-
P1D0	580.67	1100.00	1178.67	1882.33	1537.67
P1D1	570.33	1179.33	1376.67	1812.33	1746.33
P1D2	-	1064.67	988.67	1747.67	1553.33
P2D0	571.33	1185.00	1486.00	1611.67	1648.00
P2D1	624.33	1148.33	1545.00	1881.33	1521.33
P2D2	-	1064.67	814.00	1577.00	1382.33
P3D0	639.00	1316.67	1496.67	1685.33	1580.67
P3D1	522.67	1227.33	1487.00	1912.00	1750.67
P3D2	-	1064.67	1675.67	1753.00	1653.00
(b) On top of rice					
P0	571.67	1207.67	1444.33	1753.00	1470.33
P1D0	278.67	205.33	307.23	682.00	486.67
P1D1	576.33	985.67	1178.33	1253.33	988.33
P1D2	585.33	1151.00	985.67	1514.33	1345.00
P2D0	186.57	74.00	199.33	539.00	584.67
P2D1	645.67	910.33	1051.33	818.00	712.33
P2D2	652.00	1253.00	1384.67	1711.67	1147.67
P3D0	-	-	-	-	-
P3D1	-	-	-	-	-
P3D2	-	-	-	-	-
(c) 5 cm above ground					
P0	245.33	317.33	364.00	418.67	339.33
P1D0	110.33	50.60	187.03	184.33	144.00
P1D1	232.00	242.67	285.53	207.67	253.67
P1D2	219.33	318.33	522.67	451.33	410.33
P2D0	60.87	25.00	58.10	214.33	325.33
P2D1	334.67	205.67	147.43	176.00	181.67
P2D2	341.33	393.67	488.67	522.67	313.00
P3D0	61.67	58.20	86.10	522.00	449.67
P3D1	351.00	181.67	133.00	187.00	242.67
P3D2	-	-	1641.67	1084.00	353.67

Appendix Table 21. Total dry matter (t/ha) of rice at different stages.

Treatment	Days after transplanting					
	20	30	45	60	75	90
P0	0.93	0.93	0.93	0.93	0.93	0.93
P1D0	0.73	0.73	0.73	0.73	0.73	0.73
P1D1	0.77	0.77	0.77	0.77	0.77	0.77
P1D2	0.80	0.80	0.80	0.80	0.80	0.80
P2D0	0.53	0.53	0.53	0.53	0.53	0.53
P2D1	0.58	0.58	0.58	0.58	0.58	0.58
P2D2	0.60	0.60	0.60	0.60	0.60	0.60
P3D0	-	-	-	-	-	-
P3D1	-	-	-	-	-	-
P3D2	-	-	-	-	-	-
Mean	0.70	0.70	0.70	0.70	0.70	0.70

Appendix Table 22. Leaf dry matter (t/ha) of *S. rostrata* at different stages.

Treatment	20	30	45	60	75	90
P0	-	-	-	-	-	-
P1D0	0.18	0.34	0.85	1.14	0.79	0.36
P1D1	0.00	0.01	0.07	0.22	0.19	0.28
P1D2	0.00	0.00	0.00	0.01	0.03	0.11
P2D0	0.25	0.61	1.14	1.24	0.82	0.33
P2D1	0.01	0.02	0.13	0.48	0.55	0.58
P2D2	0.00	0.00	0.00	0.02	0.09	0.21
P3D0	0.50	0.89	1.48	1.92	1.15	0.58
P3D1	0.01	0.05	0.50	0.92	0.78	0.59
P3D2	0.00	0.00	0.01	0.04	0.25	0.58
Mean	0.11	0.21	0.47	0.66	0.51	0.40

Appendix Table 23. Stem dry matter (t/ha) of *S. rostrata* at different stages.

Treatment	Days after transplanting					
	20	30	45	60	75	90
P0	-	-	-	-	-	-
P1D0	0.15	0.40	2.55	6.47	7.47	8.43
P1D1	0.00	0.01	0.10	0.60	0.80	2.61
P1D2	0.00	0.00	0.00	0.01	0.05	0.40
P2D0	0.22	0.82	3.38	6.89	9.32	11.42
P2D1	0.01	0.02	0.18	1.02	2.68	5.50
P2D2	0.00	0.00	0.00	0.03	0.16	0.76
P3D0	0.48	1.34	4.81	10.76	13.38	16.56
P3D1	0.01	0.04	0.82	2.93	3.71	9.19
P3D2	0.00	0.00	0.01	0.07	0.46	2.25
Mean	0.10	0.29	1.32	3.20	4.22	6.35

Appendix Table 24. Total dry matter (t/ha) of *S. rostrata* at different stages.

Treatment	Days after transplanting					
	20	30	45	60	75	90
P0	-	-	-	-	-	-
P1D0	0.33	0.74	3.40	7.61	8.26	8.78
P1D1	0.01	0.02	0.17	0.82	0.99	2.90
P1D2	0.00	0.00	0.01	0.02	0.08	0.50
P2D0	0.47	1.43	4.53	8.13	10.14	11.75
P2D1	0.02	0.04	0.32	1.49	3.23	6.08
P2D2	0.00	0.00	0.01	0.05	0.25	0.97
P3D0	0.98	2.22	6.29	12.67	14.53	17.15
P3D1	0.02	0.09	1.32	3.85	4.47	9.78
P3D2	0.00	0.00	0.01	0.12	0.70	2.83
Mean	0.20	0.51	1.78	3.86	4.74	6.75



Appendix Table 25. Nodule dry matter (g/plant) of *S. rostrata* at different stages.

Treatment	Days after transplanting					
	20	30	45	60	75	90
P0	-	-	-	-	-	-
P1D0	0.22	0.40	0.98	1.15	1.47	1.66
P1D1	0.01	0.03	0.07	0.27	0.23	0.76
P1D2	0.00	0.00	0.00	0.04	0.10	0.25
P2D0	0.17	0.43	0.54	0.64	1.75	1.13
P2D1	0.01	0.03	0.09	0.29	0.74	0.72
P2D2	0.00	0.00	0.00	0.05	0.20	0.23
P3D0	0.14	0.26	0.22	0.44	2.52	0.85
P3D1	0.01	0.01	0.15	0.24	0.78	0.56
P3D2	0.00	0.00	0.00	0.04	0.45	0.24
Mean	0.06	0.13	0.23	0.35	0.92	0.71

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
 Copyright© by Chiang Mai University  
 All rights reserved



## CURRICULUM VITAE

Name: NGUYEN NGOC DE

Date of Birth: 22 August 1956

Place of Birth: Cuu Long province, VIETNAM

Educational Background:

1968 - 1974  
Secondary School  
Binh Minh High School  
Binh Minh, Cuu long, VIETNAM

1974 - 1979  
B.S. Agriculture (Agronomy)  
University of Cantho  
Cantho, Haugiang, VIETNAM

1990 - 1992  
M.Sc. Agriculture(Agricultural systems)  
Chiang Mai University  
Chiang Mai, THAILAND

Work Experiences:

1979 - 1989  
Lecturer and Researcher  
Mekong Delta Rice R & D Center  
Faculty of Agriculture  
University of Cantho  
Cantho, VIETNAM

1989 - 1992  
Lecturer and Researcher  
Mekong Delta Farming System R & D Center  
University of Cantho  
Cantho, VIETNAM

Address:  
Mekong Delta Farming System R & D Center  
University of Cantho  
Cantho, VIETNAM  
Tel.# 24517