

## Baseline

## SUMMARY OF NITROGEN BUDGET AND BIOMASS YIELDS FOR ENTIRE SIMULATION

**INPUTS OF NITROGEN TO SITE (KG/HA)      OUTPUTS OF NITROGEN FROM SITE (KG/HA)**

FERTILIZATION: 1000. SLASH BURNING: 300.

PRECIPITATION: 747. PRESCRIBED  
BURNING : 1000.

LEACHING: 249.

**TOTAL: 1747. LOSSES FROM BIOMASS REMOVALS**

STEMS: 51.73

COARSE ROOTS: .00

FOLIAGE: .00

**BRANCHES:** .00

TOTAL: 51.73

NET CHANGE IN TOTAL NITROGEN OF SITE (KG/HA): 146.

SOIL NITROGEN POOL AT END OF SIMULATION (KG/HA): 2085.

CARBON:NITROGEN RATIO AT END OF SIMULATION: 14.

### BIOMASS YIELDS (KG/HA)

STEMS: 51735.

COARSE ROOTS: 0.

FOLIAGE: 0.

**BRANCHES:** 0.

TOTAL: 51735.

Biomass yield per unit of nitrogen removed: 1000.

Run 1

## SUMMARY OF NITROGEN BUDGET AND BIOMASS YIELDS FOR ENTIRE SIMULATION

**INPUTS OF NITROGEN TO SITE (KG/HA)                    OUTPUTS OF NITROGEN FROM SITE (KG/HA)**

FERTILIZATION: 0. SLASH BURNING: 300.

PRECIPITATION: 747. PRESCRIBED  
BURNING : 1000.

LEACHING: 249.

**TOTAL: 747. LOSSES FROM BIOMASS REMOVALS**

STEMS: 11.71

COARSE ROOTS: .00

FOLIAGE: .00

**BRANCHES:** .00

TOTAL: 11.71

NET CHANGE IN TOTAL NITROGEN OF SITE (KG/HA): -814.

SOIL NITROGEN POOL AT END OF SIMULATION (KG/HA): 1125.

## CARBON:NITROGEN RATIO AT END OF SIMULATION: 27.

### BIOMASS YIELDS (KG/HA)

STEMS: 11712.

**COARSE ROOTS:** 0.

FOLIAGE: 0.

**BRANCHES:** 0.

TOTAL: 11712.

Biomass yield per unit of nitrogen removed: 1000.

Run 2

## SUMMARY OF NITROGEN BUDGET AND BIOMASS YIELDS FOR ENTIRE SIMULATION

## INPUTS OF NITROGEN TO SITE (KG/HA)      OUTPUTS OF NITROGEN FROM SITE (KG/HA)

FERTILIZATION: 0. SLASH BURNING: 300.

PRECIPITATION: 747. PRESCRIBED  
BURNING : 1000.

LEACHING: 249.

**TOTAL: 747. LOSSES FROM BIOMASS REMOVALS**

STEMS: 10.29

COARSE ROOTS: 2.06

FOLIAGE: 84.51

BRANCHES: 25.82

TOTAL: 122 68

NET CHANGE IN TOTAL NITROGEN OF SITE (KG/HA): -925.

SOIL NITROGEN POOL AT END OF SIMULATION (KG/HA): 1014.

CARBON:NITROGEN RATIO AT END OF SIMULATION: 30.

#### Biomass Yields (kg/ha)

STEMS: 10286.

## COARSE ROOTS: 2057.

FOLIAGE: 7043.

BRANCHES: 7825.

TOTAL: 27211.

BIOMASS YIELD PER UNIT OF NITROGEN REMOVED: 222.

*Run 3*

SUMMARY OF NITROGEN BUDGET AND BIOMASS YIELDS FOR ENTIRE SIMULATION

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INPUTS OF NITROGEN TO SITE (KG/HA)      OUTPUTS OF NITROGEN FROM SITE (KG/HA)

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FERTILIZATION: 1000.      SLASH BURNING: 300.

PRECIPITATION: 747.      PRESCRIBED  
BURNING : 0.

LEACHING: 249.

TOTAL: 1747.      LOSSES FROM BIOMASS REMOVALS

STEMS: 133.37

COARSE ROOTS: .00

FOLIAGE: .00

BRANCHES: .00

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TOTAL: 133.37

NET CHANGE IN TOTAL NITROGEN OF SITE (KG/HA): 1065.

SOIL NITROGEN POOL AT END OF SIMULATION (KG/HA): 3003.

CARBON:NITROGEN RATIO AT END OF SIMULATION: 10.

BIOMASS YIELDS (KG/HA)

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STEMS: 133373.

COARSE ROOTS: 0.

FOLIAGE: 0.

BRANCHES: 0.

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TOTAL: 133373.

BIOMASS YIELD PER UNIT OF NITROGEN REMOVED: 1000.

Run 4

SUMMARY OF NITROGEN BUDGET AND BIOMASS YIELDS FOR ENTIRE SIMULATION

INPUTS OF NITROGEN TO SITE (KG/HA)    OUTPUTS OF NITROGEN FROM SITE (KG/HA)

FERTILIZATION: 1000.    SLASH BURNING: 0.

PRECIPITATION: 747.    PRESCRIBED  
BURNING: 0.

LEACHING: 249.

TOTAL: 1747.    LOSSES FROM BIOMASS REMOVALS

STEMS: 167.36

COARSE ROOTS: .00

FOLIAGE: .00

BRANCHES: .00

TOTAL: 167.36

NET CHANGE IN TOTAL NITROGEN OF SITE (KG/HA): 1331.

SOIL NITROGEN POOL AT END OF SIMULATION (KG/HA): 3344.

CARBON:NITROGEN RATIO AT END OF SIMULATION: 9.

BIOMASS YIELDS (KG/HA)

STEMS: 167363.

COARSE ROOTS: 0.

FOLIAGE: 0.

BRANCHES: 0.

TOTAL: 167363.

BIOMASS YIELD PER UNIT OF NITROGEN REMOVED: 1000.

# Run 5

## SUMMARY OF NITROGEN BUDGET AND BIOMASS YIELDS FOR ENTIRE SIMULATION

INPUTS OF NITROGEN TO SITE (KG/HA)      OUTPUTS OF NITROGEN FROM SITE (KG/HA)

FERTILIZATION: 1000.      SLASH BURNING: 300.

PRECIPITATION: 747.      PRESCRIBED  
BURNING: 1000.

LEACHING: 249.

TOTAL: 1747.      LOSSES FROM BIOMASS REMOVALS

STEMS: 580.10

COARSE ROOTS: .00

FOLIAGE: .00

BRANCHES: .00

TOTAL: 580.10

NET CHANGE IN TOTAL NITROGEN OF SITE (KG/HA): -382.

SOIL NITROGEN POOL AT END OF SIMULATION (KG/HA): 3556.

CARBON:NITROGEN RATIO AT END OF SIMULATION: 6.

## BIOMASS YIELDS (KG/HA)

STEMS: 580099.

COARSE ROOTS: 0.

FOLIAGE: 0.

BRANCHES: 0.

TOTAL: 580099.

BIOMASS YIELD PER UNIT OF NITROGEN REMOVED: 1000.

FORNOUT

Simulation		N inputs				N outputs				
	Rotation	Fert	PPT	Total	Slash	Prescribed	Leaching	stems		
Baseline	1	200	147	347	0	200	49	9.69		
	2	200	150	350	75	200	50	9.96		
<i>rotation = 5</i>	3	200	150	350	75	200	50	9.96		
<i>rotation length = 50</i>	4	200	150	350	75	200	50	11.07		
<i>harvest = stems</i>	5	200	150	350	75	200	50	11.07		
	Total	1000	747	1747	300	1000	249	51.75		
<i>fert rate = 0</i>	1	0	147	147	0	200	49	5.38		
	2	0	150	150	75	200	50	3.54		
	3	0	150	150	75	200	50	1.67		
	4	0	150	150	75	200	50	0.81		
	5	0	150	150	75	200	50	0.32		
	Total	0	747	747	300	1000	249	11.72		
<i>harvest = whole</i>	1	0	147	147	0	200	49	5.38		
	2	0	150	150	75	200	50	2.99		
	3	0	150	150	75	200	50	1.34		
	4	0	150	150	75	200	50	0.45		
	5	0	150	150	75	200	50	0.14		
	Total	0	747	747	300	1000	249	10.3		
<i>fert rate = 200</i>	1	200	147	347	0	0	49	12.86		
	2	200	150	350	75	0	50	18.32		
<i>harvest = stems</i>	3	200	150	350	75	0	50	26.44		
<i>Presc. burn = 20</i>	4	200	150	350	75	0	50	33.85		
	5	200	150	350	75	0	50	41.91		
	Total	1000	747	1747	300	0	249	133.38		
<i>broadcast</i>	1	200	147	347	0	0	49	12.86		
<i>burn = 0</i>	2	200	150	350	0	0	50	21.4		
	3	200	150	350	0	0	50	31.93		
	4	200	150	350	0	0	50	44.01		
	5	200	150	350	0	0	50	57.16		
	Total	1000	747	1747	0	0	249	167.36		
<i>Presc. burn = 100</i>	1	200	147	347	0	200	49	127.51		
<i>broadcast</i>	2	200	150	350	75	200	50	121.8		
	3	200	150	350	75	200	50	115.39		
<i>burn = 75</i>	4	200	150	350	75	200	50	111.03		
<i>C = 20000</i>	5	200	150	350	75	200	50	104.37		
<i>N = 4000</i>	Total	1000	747	1747	300	1000	249	580.1		

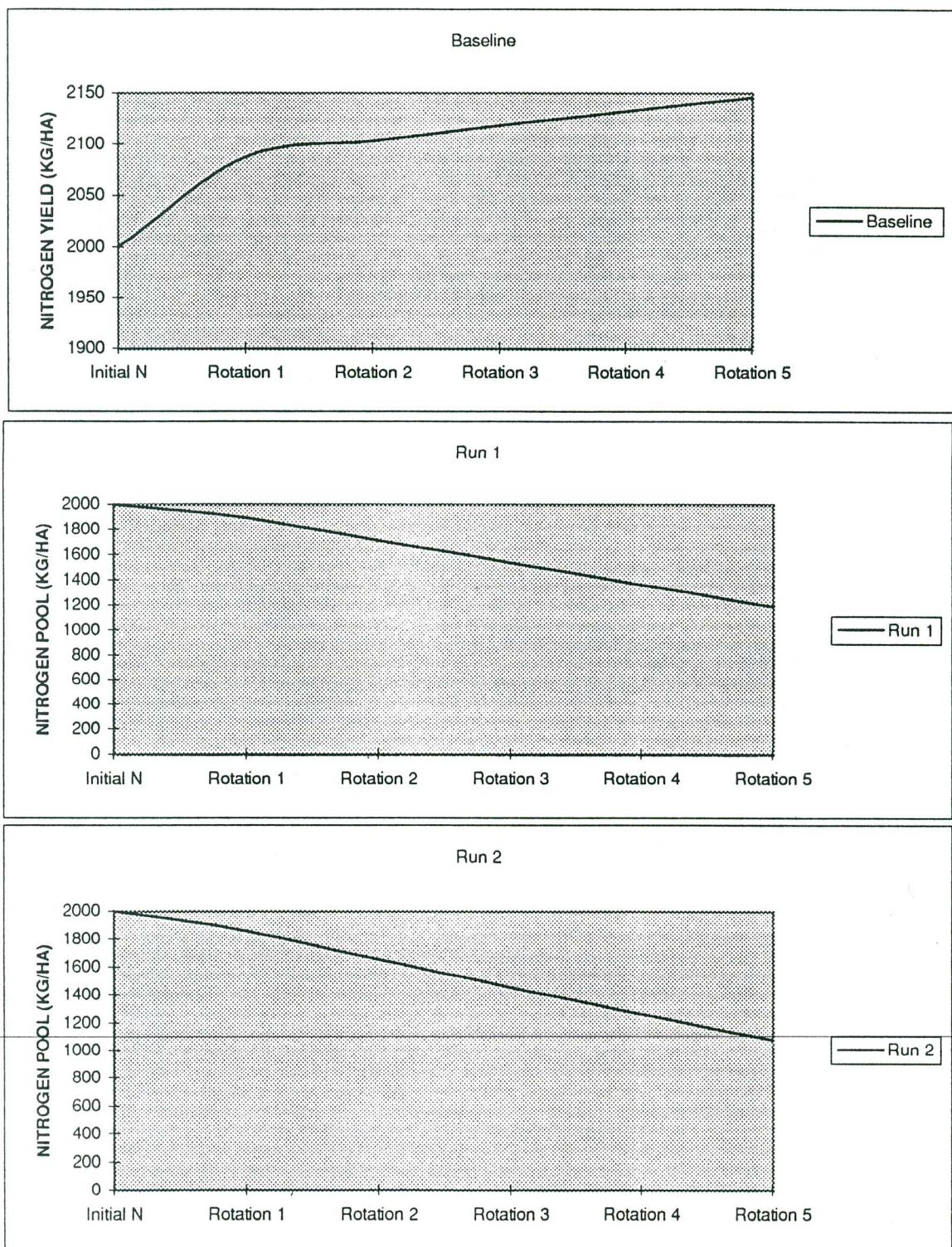
## FORNOUT

roots	foliage	branches	total	net change	N pool	C:N	Biomass yields	
							stems	roots
0	0	0	258.69	88.31	2088	14	9688	0
0	0	0	334.96	15.04	2103	14	9956	0
0	0	0	334.96	15.04	2118	14	9956	0
0	0	0	336.07	13.93	2132	14	11068	0
0	0	0	336.07	13.93	2146	14	11068	0
0	0	0	1600.75	146.25			51736	0
0	0	0	254.38	-107.38	1893	16	5375	0
0	0	0	328.54	-178.54	1714	18	3540	0
0	0	0	326.67	-176.67	1537	20	1670	0
0	0	0	325.81	-175.81	1362	22	810	0
0	0	0	325.32	-175.32	1186	25	316	0
0	0	0	1560.72	-813.72			11711	0
1.08	25.11	7.67	288.24	-141.24	1859	16	5375	1075
0.6	21.06	6.44	356.09	-206.09	1653	18	2988	598
0.27	16.74	5.12	348.47	-198.47	1454	21	1337	267
0.09	12.42	3.79	341.75	-191.75	1262	24	446	89
0.03	9.18	2.8	337.15	-187.15	1075	28	140	28
2.07	84.51	25.82	1671.7	-924.7			10286	2057
0	0	0	61.86	285.14	2285	13	12857	0
0	0	0	143.32	206.68	2492	12	18316	0
0	0	0	151.44	198.56	2690	11	26444	0
0	0	0	158.85	191.15	2882	10	33848	0
0	0	0	166.91	183.09	3065	10	41908	0
0	0	0	682.38	1064.62			133373	0
0	0	0	61.86	285.14	2285	13	12857	0
0	0	0	71.4	278.6	2564	12	21403	0
0	0	0	81.93	268.07	2832	11	31930	0
0	0	0	94.01	255.99	3088	10	44009	0
0	0	0	107.16	242.84	3331	9	57164	0
0	0	0	416.36	1330.64			167363	0
0	0	0	376.51	-29.51	3970	5	127506	0
0	0	0	446.8	-96.8	3874	5	121795	0
0	0	0	440.39	-90.39	3783	5	115953	0
0	0	0	436.03	-86.03	3697	5	111034	0
0	0	0	429.37	-79.37	3618	6	104371	0
0	0	0	2129.1	-382.1			580659	0

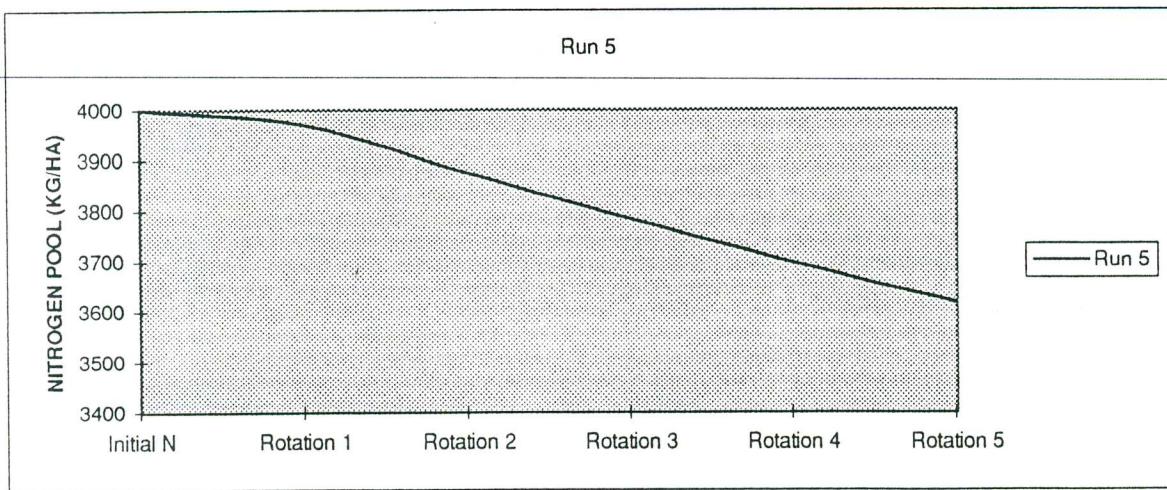
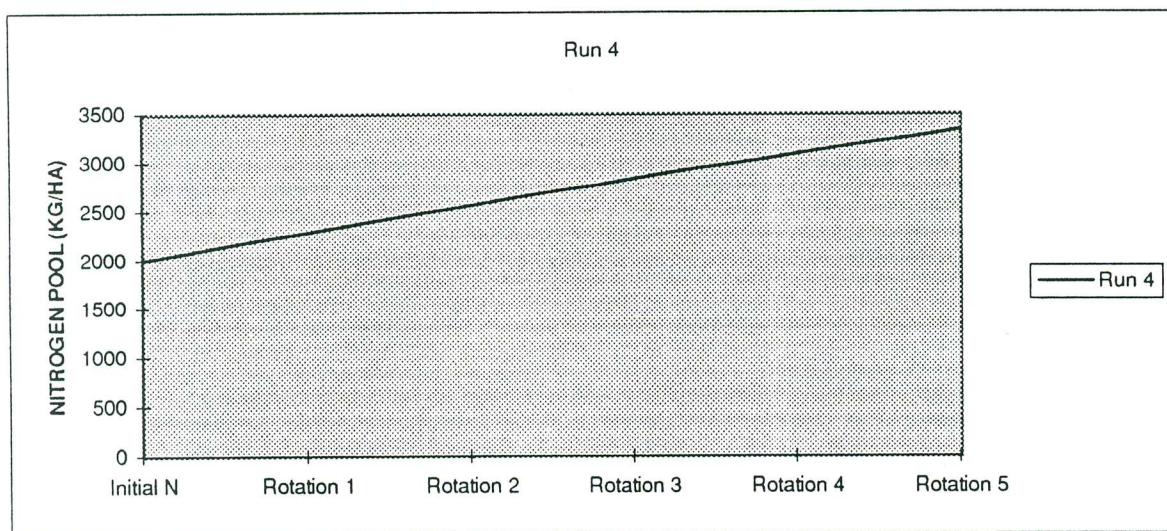
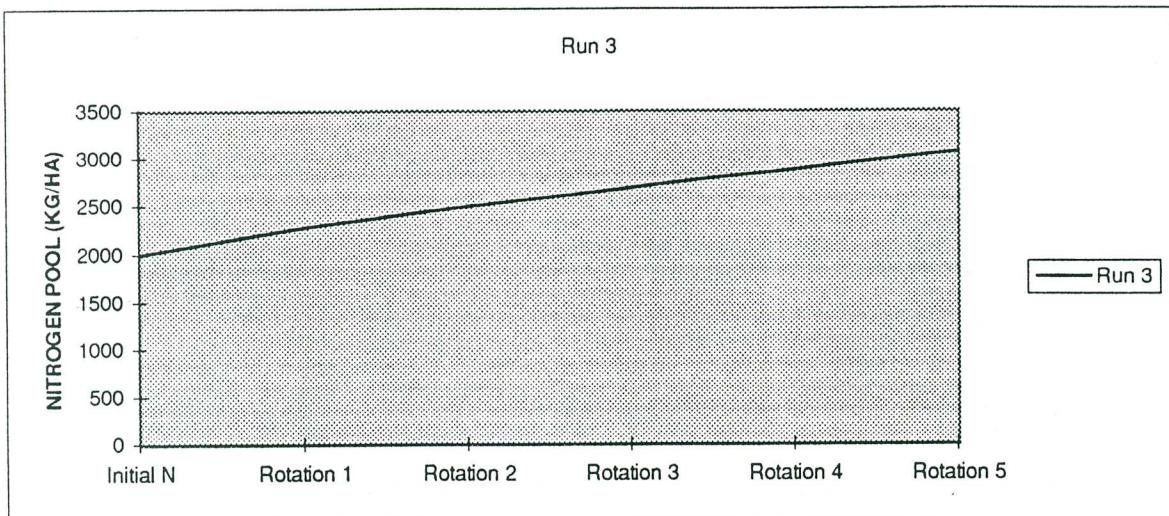
## FORNOUT

foliage	branches	total	yield/unit N
0	0	9688	1000
0	0	9956	1000
0	0	9956	1000
0	0	11068	1000
0	0	11068	1000
0	0	51736	
0	0	5375	1000
0	0	3540	1000
0	0	1670	1000
0	0	810	1000
0	0	316	1000
0	0	11711	
2093	2325	10868	277
1755	1950	7291	235
1395	1550	4549	194
1035	1150	2720	162
765	850	1783	147
7043	7825	27211	
0	0	12857	1000
0	0	18316	1000
0	0	26444	1000
0	0	33848	1000
0	0	41908	1000
0	0	133373	
0	0	12857	1000
0	0	21403	1000
0	0	31930	1000
0	0	44009	1000
0	0	57164	1000
0	0	167363	
0	0	127506	1000
0	0	121795	1000
0	0	115953	1000
0	0	111034	1000
0	0	104371	1000
0	0	580659	

### N pool graphs

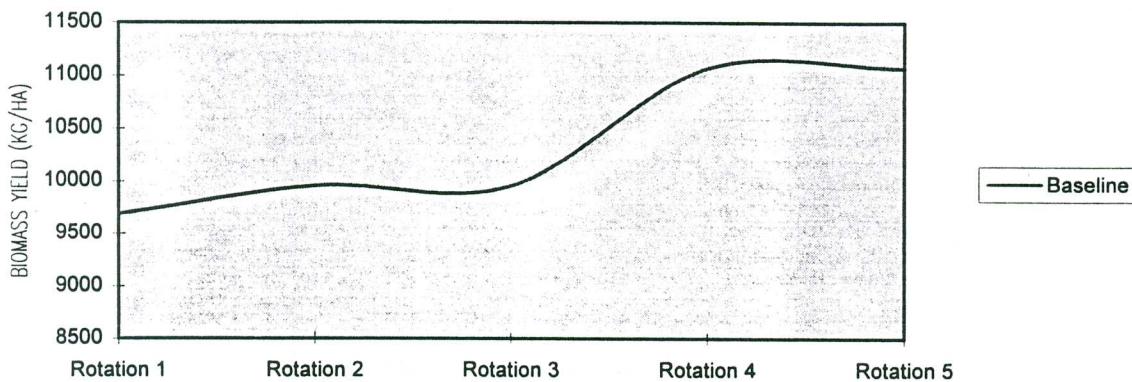


### N pool graphs

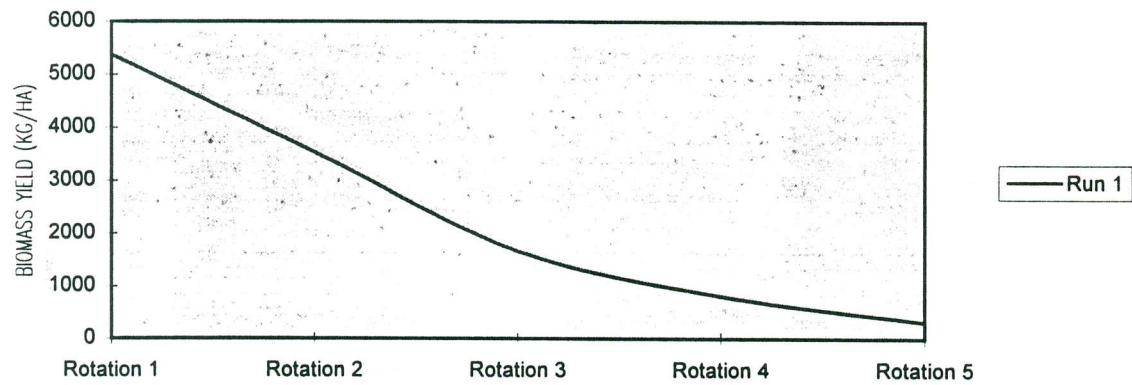


## Biomass Graphs

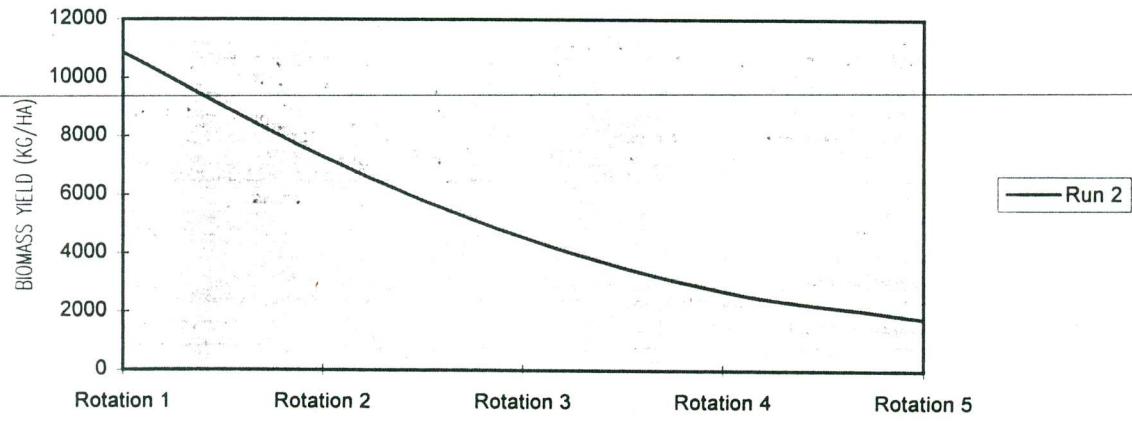
Baseline



Run 1

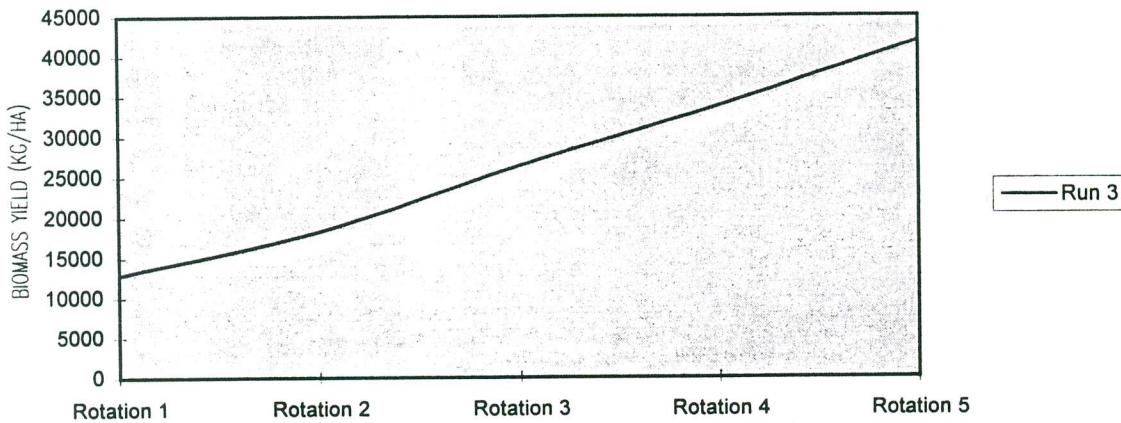


Run 2

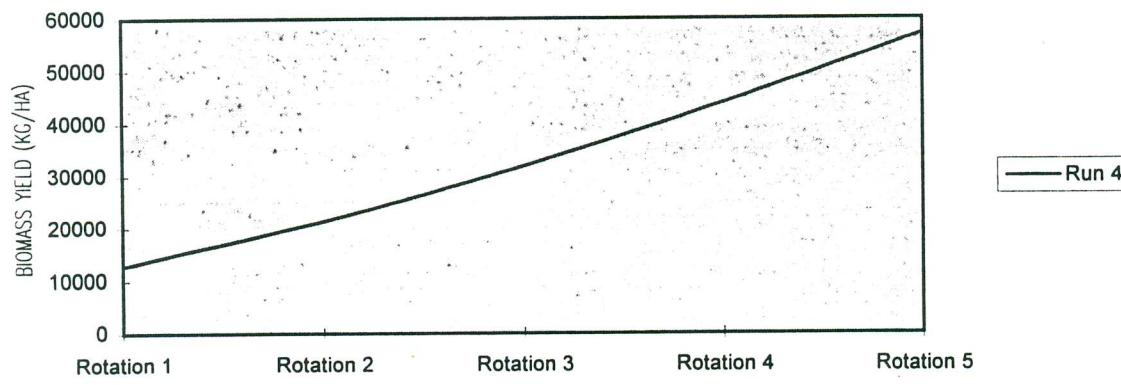


## Biomass Graphs

Run 3



Run 4



Run 5

