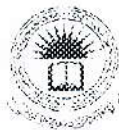


**EFFECTS OF PLANT SPACING ON PRODUCTIVITY AND
NUTRIENT COMPOSITION OF
HYBRID NAPIER GRASS-CO3
(*Pennisetum perpureum* x *Pennisetum americanum*)
IN THE EUSL LIVESTOCK FARM**



A.W. THILANKA AMALI



FAG611



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Eastern University, Sri Lanka

**DEPARTMENT OF ANIMAL SCIENCE
FACULTY OF AGRICULTURE
EASTERN UNIVERSITY, SRI LANKA**

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ABSTRACT

Feeding standards of ruminant livestock could be significantly enhanced through the cultivation of improved quality forages which are suitable for different agroclimatic conditions of the country. Hybrid Napier cultivars CO3 is the most popular among ruminant rearing farmers. Hence, an experiment was carried out to assess the growth parameters, herbage yield and chemical composition of hybrid Napier CO3 (*Pennisetum perpureum* X *Pennisetum americanum*) at the Livestock farm of Department of Animal Science, Faculty of Agriculture, Eastern University Sri Lanka.

The experiment was conducted during the period of February to April 2019 with four different spacing such as 50 cm x 25 cm, 50 cm x 45 cm, 50 cm x 65 cm and 50 cm x 85 cm with five blocks under randomized complete block design. Growth parameters (plant height, leaf length, leaf width number of tillers per clump, leaf area) were measured at two-week intervals from 4th week up to the 8th week. In addition, productivity of fodders such as yield and proximate composition of the forage also measured.

Collected data were subjected to Analysis of Variance (ANOVA). The means were separated using Duncan's multiple range test at 0.05 significance level. Results obtained indicated that productivity of CO3 is superior in 50 cm x 45 cm spacing of growth under the conditions in Eastern University Livestock farm, and resulted the highest ($p < 0.05$) dry matter yield of 56.19 g per plant in 50 cm x 45 cm spacing. And lowest dry matter yield of 38.49 g showed 50 cm x 85 cm spacing. In terms of chemical composition 50 cm x 45 cm spacing showed highest total ash content (16.68%), crude fat content (5.94%) and crude fiber content (33.13%) on dry matter basis.

TABLE OF CONTENTS

ABSTRACT	I
ACKNOWLEDGEMENT	II
TABLE OF CONTENTS.....	IV
LIST OF TABLES	VI
LIST OF FIGURES.....	VII
ABBREVIATIONS.....	VIII
CHAPTER 01	9
1. INTRODUCTION.....	9
CHAPTER 02	13
2. LITERATURE REVIEW	13
2.1.1. Growth characters and fodder production behavior	15
2.1.2. Cutting interval	19
2.1.3. Inter cropping with fodder grass.....	20
2.1.4 Plant density	21
2.1.5 Planting material and the productivity	23
2.1.6 Fertilizers	24
2.2. Cultivars of Hybrid Napier	24
2.3. Spacing.....	28
2.4. Nutritive value	28
2.5 How to affect livestock production	30
CHAPTER 03	31
3. MATERIALS AND METHODS	31
3.1 General details	31
3.1.1 Experimental site	31
3.1.2 Weather	31
3.2 Experiment	32
3.3 Experimental design	32
3.4 Field operations	32
3.5 Experimental details	33
3.6 parameters.....	34
Total Dry mater content.....	35
3.6.1 Biometric observations.....	36
3.7 Growth Analysis	36

3.8 Forage yield	37
3.9 Nutritive value and quality.....	37
3.9.1 Procedure of Dry matter and ash Determination	38
3.9.2 Determination of crude fat	39
3.9.3 Procedure of crude fiber determinations	40
3.10 Data analysis	40
CHAPTER 04	41
4. RESULTS AND DISCUSSION	41
4.1. Growth parameters of Hybrid Napier	41
4.1.1. Plant height	41
4.1.2. Leaf length.....	42
4.1.3. Leaf width (cm)	43
4.1.4. Leaf Area Index	44
4.1.5. Number of tillers per clump.....	44
4.2. Productivity of Hybrid Napier	45
4.2.1. Fresh weight of grass.....	45
4.2.2. Dry matter yield of grass.....	46
4.2.3. Proximate composition of Hybrid grass	47
4.3.1. Dry matter content.....	47
4.3.2. Crude fiber	48
4.3.3. Crude fat.....	49
4.3.4. Total ash.....	49
CHAPTER 05	50
CONCLUSION	50
REFERENCES	51
ANNEXURE	