

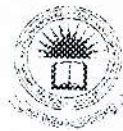
**EFFECT OF DIFFERENT CONCENTRATION LEVEL OF
MOLASSES FOR SILAGE MAKING USING
HYBRID NAPIER (CO3)**

(Pennisetum purpureum X Pennisetum americanum)



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ABSTRACT

Limitation of feed resources in dry season is the main barrier in tropical region farmers. It directly affect for animal nutrition state and finally it may lead to low productivity. To mitigate this problem forage conservation in the form of silage is a best option to increase the animal nutrient requirement throughout the year. Therefore the present study was carried out to identify the most appropriate concentration level of molasses which is used to prepare silage by using Hybrid Napier CO3. There were ten treatments with three replications. The treatments were 5%, 10%, 15% and 20% concentrate level of molasses prepared without dilution and 5%, 10%, 15% and 20% diluted molasses prepared by mixing water in 1:1 ratio. The experiment was conducted at the Department of Animal Science Nutritional Laboratory, Faculty of Agriculture Eastern University Sri Lanka from March to April on 2019. Hybrid Napier CO3 grass was harvest before flowering and it was chopped and wilt for 3-4 hours and then it was mixed with different concentration level of molasses. Then it was filled in to plastic bottles and sealed. After 21 days of fermentation, samples were taken for proximate analysis and physical evaluation. For proximate evaluation dry matter, crude fiber, crude protein and ash were analyzed. Color, Odour and texture were taken as a physical properties and it was taken from eye appraisal and sensory evaluation. Wastage and pH were measured by pH meter and electrical balance. Among ten treatments 20% concentrate molasses without dilution has significant difference in proximate composition (dry matter (26.67%), crude protein (12.05%) and Ash (12.17%)) compared with other treatments.

Treatment of T₂, T₃ and T₄ increase their proximate composition gradually. Considering the treatment T₇, T₈, T₉ and T₁₀ decrease their proximate composition and physical properties gradually. Because of increasing moisture content reduce the fermentation state and finally it adversely affect for silage quality.

pH (3.80) and wastage (40.03 g) also significantly low in 20% concentrated molasses added silage compare to other treatments.

According to this study 20% concentrated molasses level (T₅) was best for silage making process among other treatments.

TABLE OF CONTENTS

ABSTRACT	I
ACKNOWLEDGMENT	III
TABLE OF CONTENTS	IV
LIST OF TABLES	VII
ABBREVIATIONS.....	IX
CHAPTER 01	1
INTRODUCTION.....	1
CHAPTER 02	5
LITERATURE REVIEW	5
2.1 Silage making.....	5
2.2 Principles of silage making.....	5
2.3 Feed resources used to make silage.....	7
2.4 Preparation and storage of silage	8
2.4.1 Packing and compaction of silage	9
2.4.2 Sealing of silage	10
2.4.3 Storage temperature	11
2.5 Ensiling process !.....	11
2.5.1 Period one- Initial aerobic phase	12
2.5.2 Period two-Fermentation phase.....	12
2.5.3 Period three-Stable phase.....	13
2.5.4 Period four-Feed-out phase	14
2.6 Fermentation products.....	14
2.7 Speed of ensiling.....	15
2.8 Changes in Crop quality during ensiling	15

2.9 Microbial activity involved in silage making	16
2.10 Silage additives	17
2.10.1 Molasses.....	17
2.10.2 Inhibitors (Acids).....	18
2.10.3 Substrate suppliers (Enzymes Additives Stimulant).....	18
2.10.4 Ammonia.....	19
2.10.5 Urea	19
2.11 Silo types	20
2.11.1 Piles and walled horizontal silo	20
2.11.2 Tower silo.....	21
2.11.3 Pressed bag silo	21
2.11.4 Plastic alternatives	22
2.11.5 Wrapped bales	23
2.12 Difficulties and drawbacks of silage making.....	24
2.13 Losses	24
2.14 Best management practices for maximizing the quality of silage Preservation.....	25
CHAPTER 03	28
MATERIALS AND METHODS	28
3.1 Experimental site.....	28
3.2 Experimental period	28
3.3 Experimental design.....	28
3.4 Preparation of different concentration level of molasses solution.....	28
3.4.1 Preparation of concentrated molasses.....	28
3.4.2 Preparation of diluted level of molasses.....	28
3.5 Treatments plan.....	29
3.6 Preparation of silage.....	29

3.7 Analysis of samples.....	29
3.7.1 Dry matter content.....	30
3.7.2 Crude protein content.....	30
3.7.3 Crude fiber content.....	31
3.7.4 Ash content.....	31
3.8 Evaluation of physical properties.....	32
3.8.1 Color.....	32
3.8.2 Odour.....	32
3.8.3 pH.....	32
3.9 Statistical analysis.....	33
CHAPTER 04.....	34
RESULTS AND DISCUSSION.....	34
4.1 The proximate composition of silage prepared by molasses with and without dilution.....	34
4.1.1 Dry matter.....	34
4.1.2 Crude protein.....	35
4.1.3 Crude fiber.....	36
4.1.4 Ash.....	36
4.2 The physical properties of silage prepared by molasses with and without dilution.....	37
4.2.1 Colour.....	37
4.2.2 Odour.....	38
4.2.3 Texture.....	39
4.3 The pH value and wastage of silage prepared by molasses with and without dilution.....	39
4.3.1 pH.....	39
4.3.2 Wastage.....	41

CHAPTER 05.....	42
CONCLUSION	42
REFERENCES.....	43
ANNEXURE	