



Biomass Yield for Kenyan *Urochloa* Grass Ecotypes Grown in a Screenhouse at Katumani, Machakos County

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Introduction

- ❖ Livestock agriculture is a key livelihood source in Kenya, contributing 30% of agricultural GDP, and adapted to regions of climatic risks
- ❖ Availability of quality feeds like *Brachiaria* are vital for sustainable livestock production.
- ❖ However, some of the *Brachiaria* varieties developed from other countries and introduced in Kenya are susceptible to diseases and drought
- ❖ This research seeks to identify locally adapted and high yielding ecotypes important for improving livestock productivity



Study Objectives

Overall objective

To evaluate various Kenyan *Urochloa* grass ecotypes for biomass production

Specific objectives

1. To determine the biomass yield for local Kenyan *Urochloa* grass ecotypes
1. Morphological characterization of Kenyan *Urochloa* grass ecotypes

Materials and Methods

Study site(s)

- ❖ KALRO Katumani station

Sampling frame/design

- ❖ Non probability sampling

Methods and tools for data collection

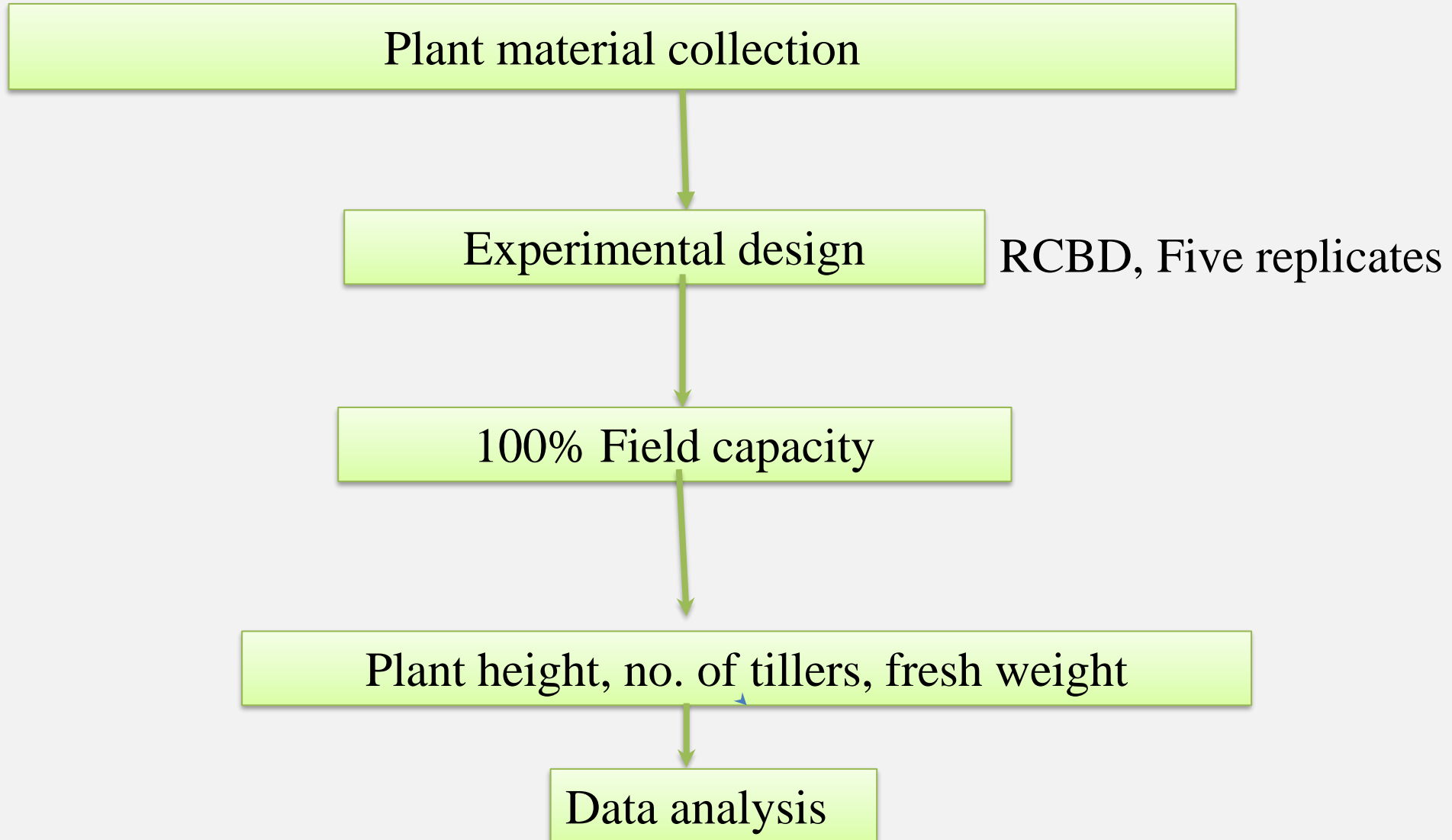
Observation and experiments

Data analysis

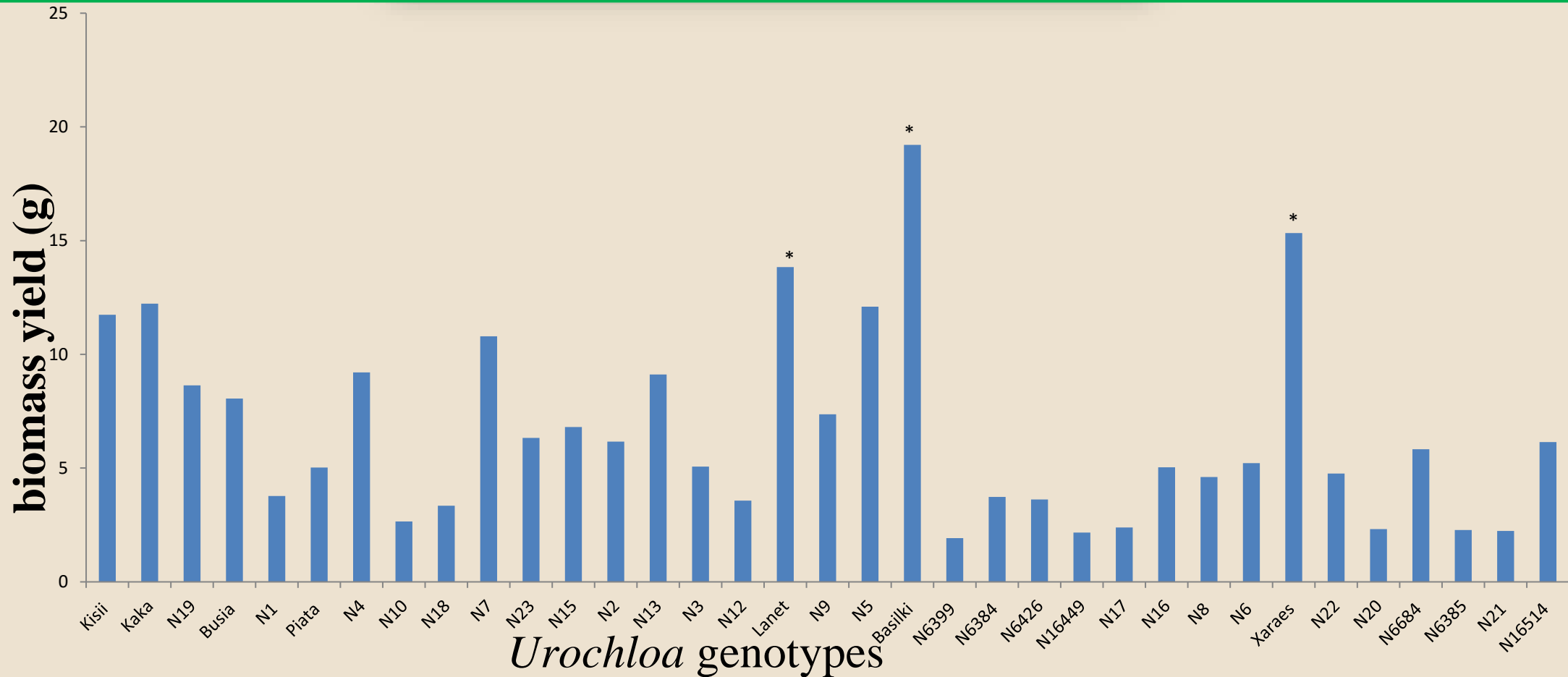
- ❖ GLM in R –one way ANOVA, mean separation by Student- Newman Keuls test
- ❖ Data expressed as Mean±SEM
- ❖ Pearson correlation to test relationship
- ❖ $P \leq 0.05$

Materials and Methods

Determination of Biomass yield and morphological traits



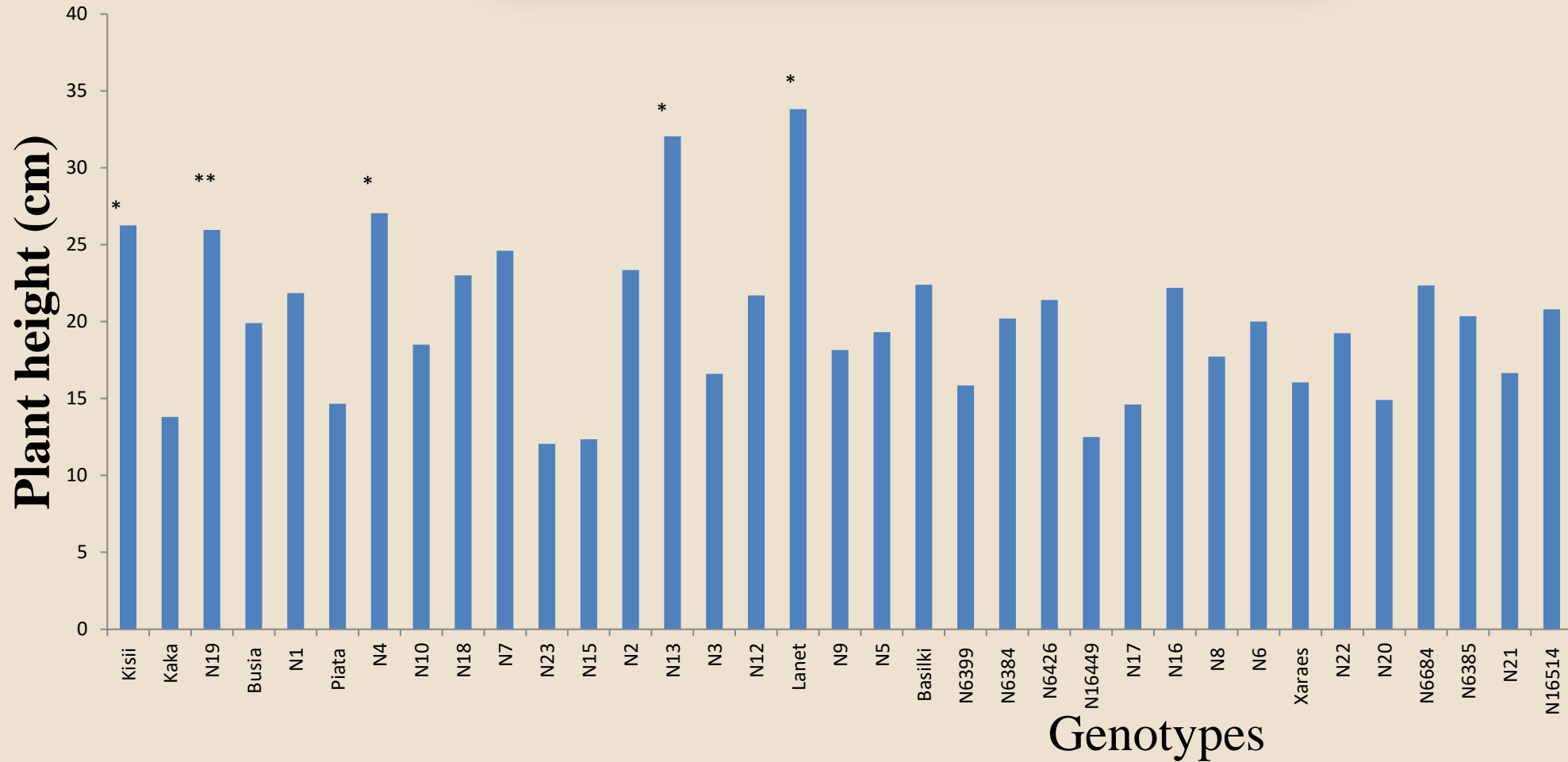
Results and Discussions



Biomass yield of *Urochloa* grass ecotypes

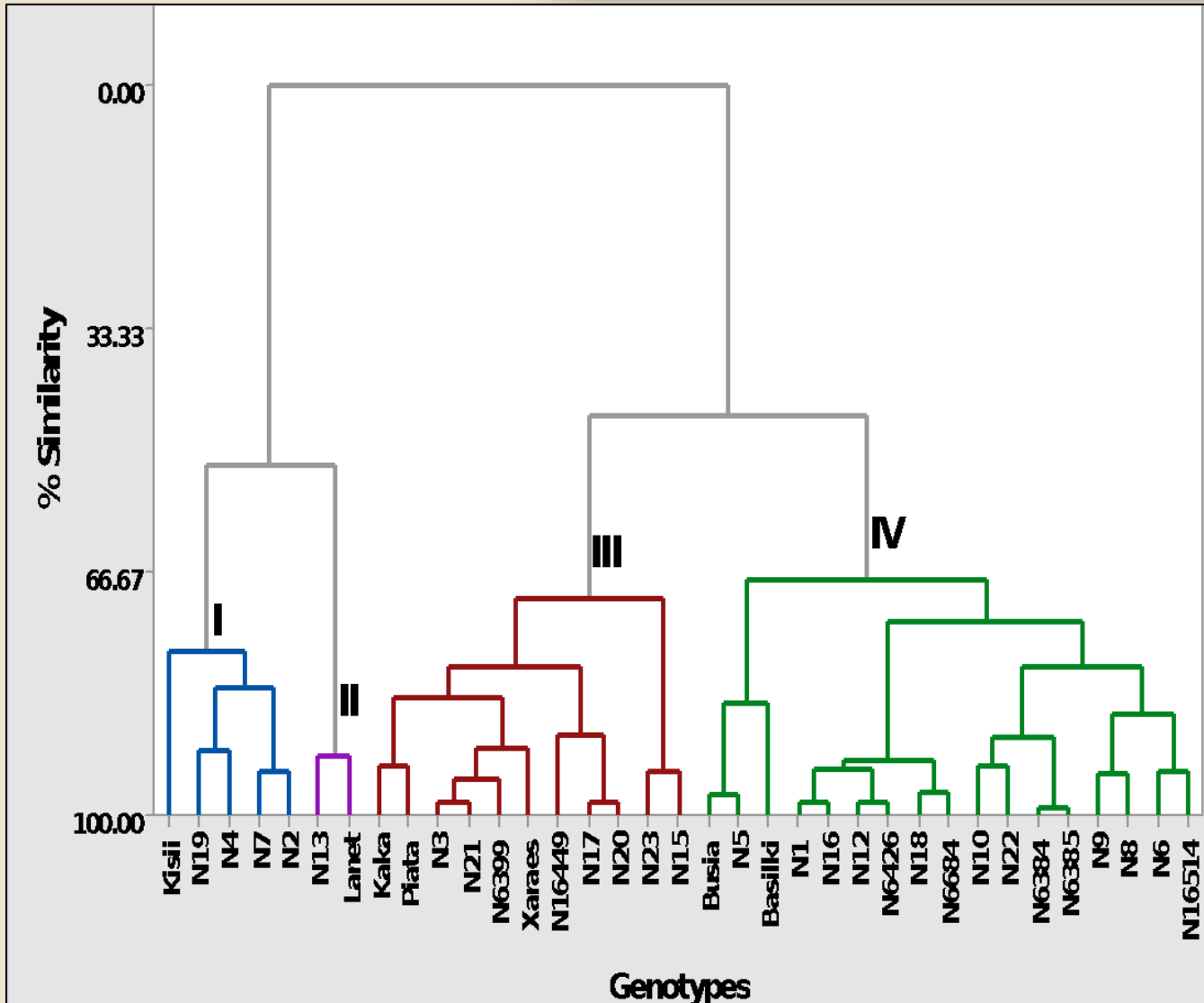
❖ Basilisk, Xaraes and Lanet accessions recorded significantly higher biomass yields

Results and Discussions



- ❖ Lanet was the tallest ecotype.
- ❖ In-terms tiller numbers Kisii ecotype was the best with (9.80 ± 0.892) tillers per plant

Results and Discussions



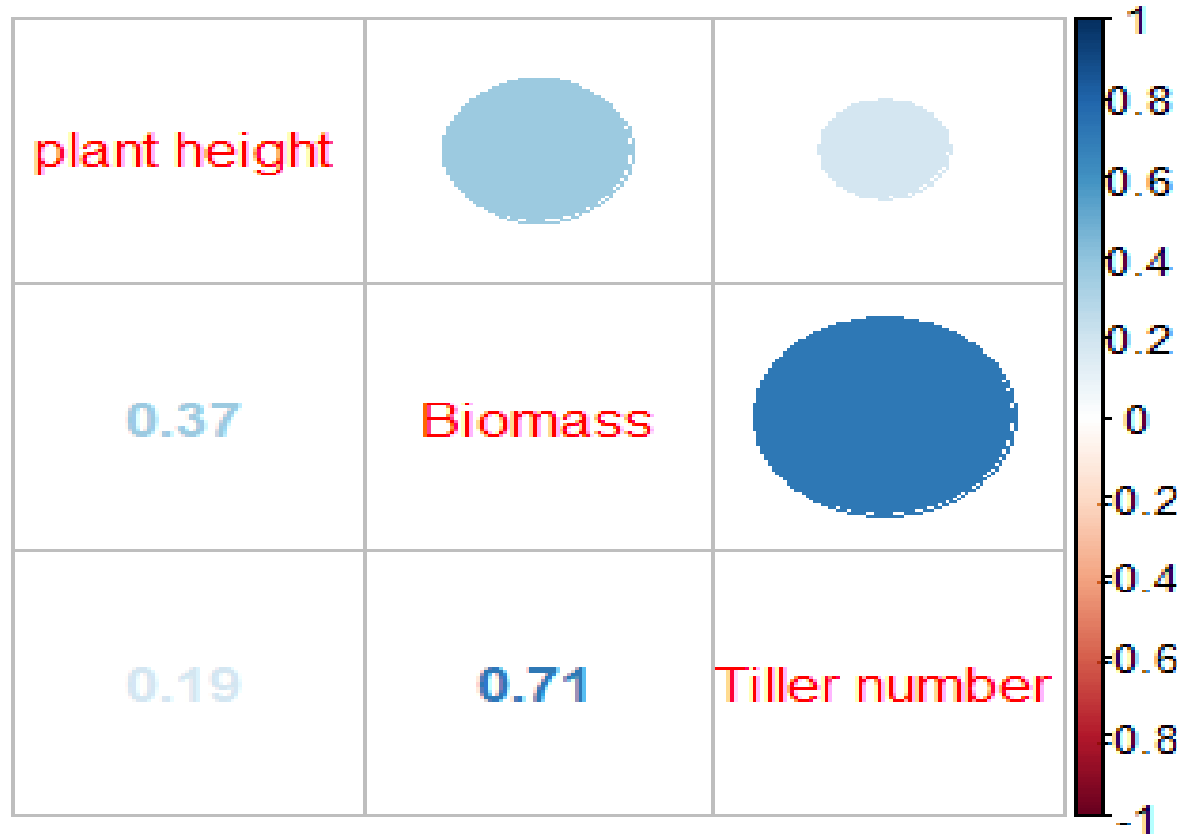
- ❖ *Urochloa* grass ecotypes clustered into four major groups

- ❖ Cluster number Number of genotype

I	5
II	2
III	11
IV	17

Dendrogram showing morphological diversity of 35 *Urochloa* accessions

Results and Discussions



- ❖ These was a significant correlation between the number of tillers and biomass yield

Pictorial illustration of correlations between variables

Conclusion and/Recommendations

- ❖ Kisii and Lanet *Brachiaria* grass ecotypes may be useful in breeding strategies for improved forage yield for increased livestock productivity.
- ❖ *Brachiaria* grass is a potential candidate or source for climate resilient livestock feed
- ❖ Further studies on drought and disease tolerance in Kenyan *Urochloa* ecotypes should be carried out.

Acknowledgements

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