

**The effects of nutrient status and habitat structure on the reproduction of roan antelope *Hippotragus equinus* and calf survival rates in different geographical areas in SA**

by

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under the supervision of

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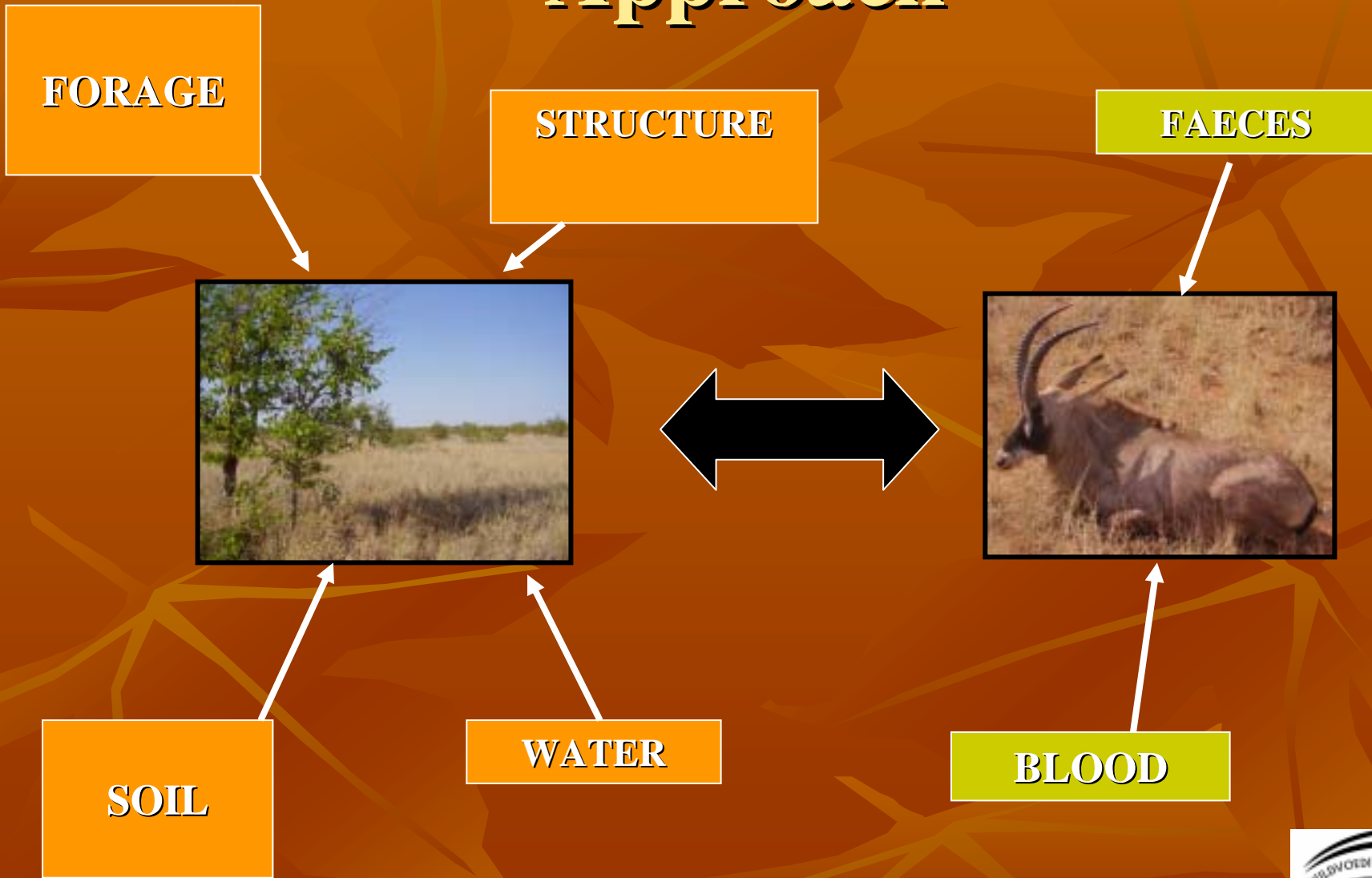


# Background

- Commercial game farming industry – growing need for effective supplementation
  - Roan antelope - high conservation priority
  - Important economical species
- Commercial feed industry – fulfill needs in providing quality feed supplements
- SANParks – biodiversity conservation priority
  - KNP – roan numbers dangerously low
  - Southern African parks – generally declined
  - Loss of habitat structure, predation, nutritional stress??



# Approach



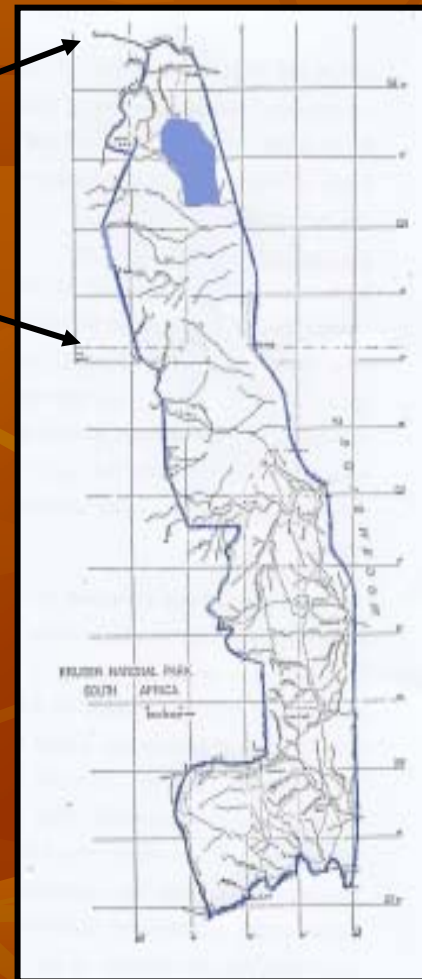
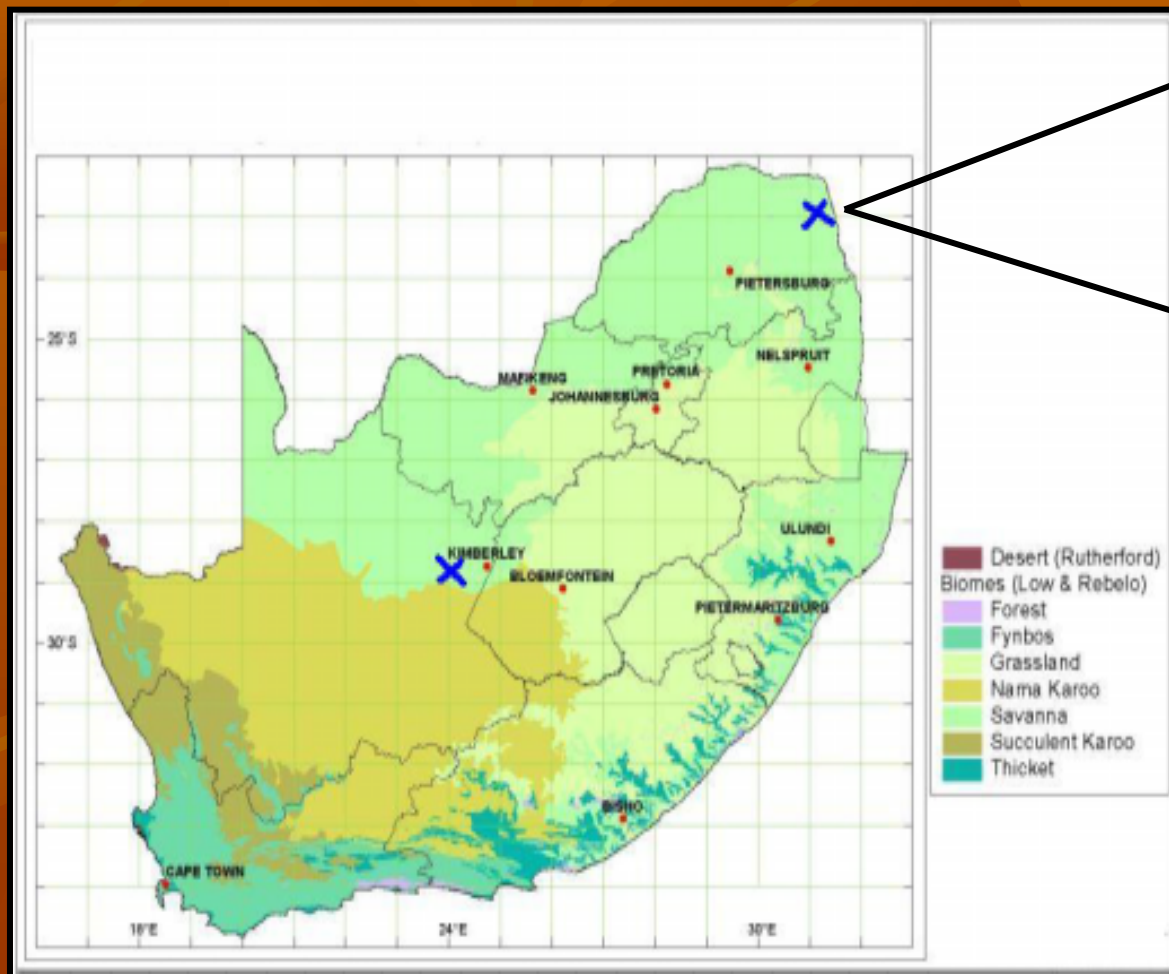
# Nutrient Analyses

(Ca, P, N, Mg, Na, Cu, Co, Mo, Zn, Fe, Se, Mn)

- **Soil samples**
- **Forage samples**
  - Wet and dry season
  - Key species
  - NDF, Fibre, Moisture, Ash
- **Water samples**
  - TDS + minerals
- **Habitat**
  - Species composition
  - Visibility
  - Tree density
- **Faecal samples**
  - Monthly / seasonally
- **Blood / Serum samples**
- **Reproduction**
  - Calf survival rates
  - Population growth



# Study areas

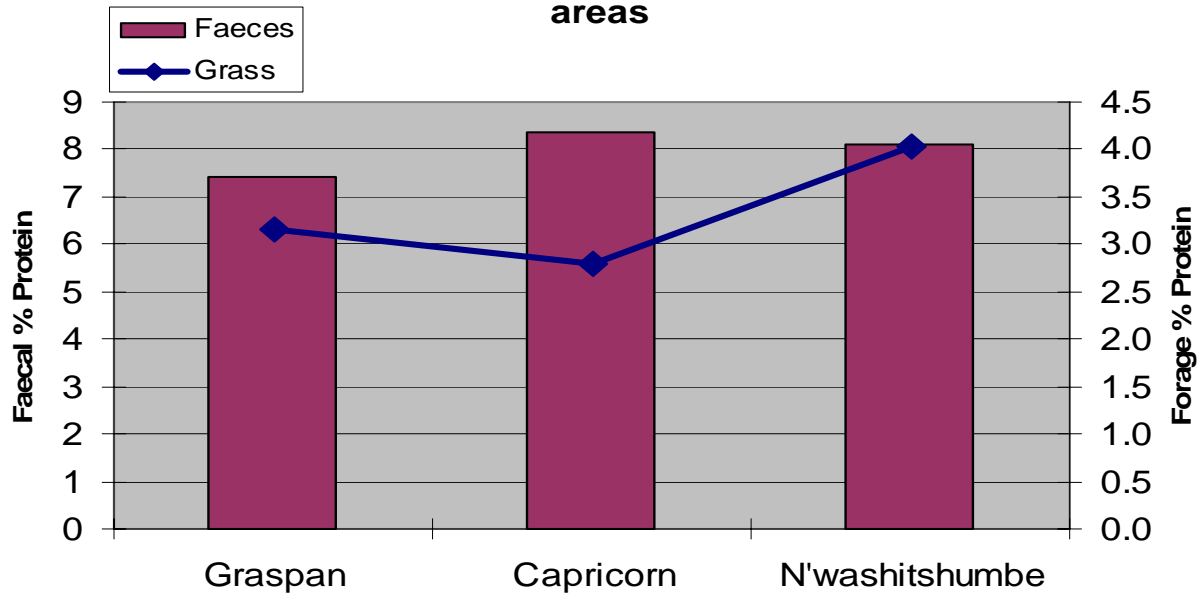


# Objectives

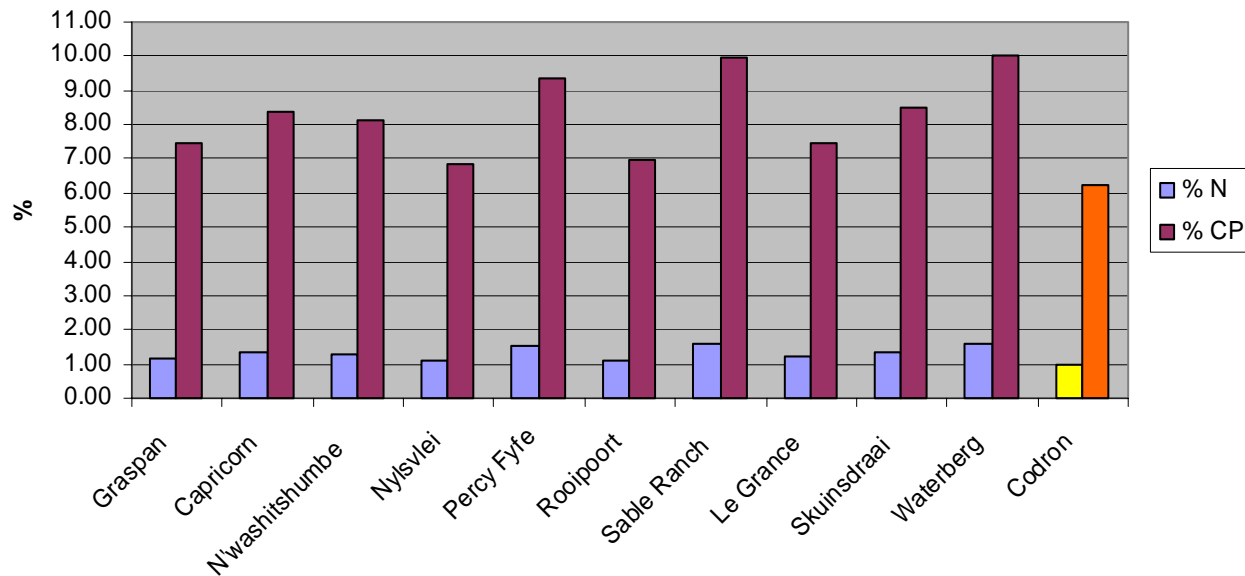
- Scientific knowledge of the nutrient status and nutritional requirements of RA in different geographical areas.
  - Guidelines for the optimal
- Determine the role that habitat structure plays in terms of habitat selection
- = Habitat sufficiency criteria
- Answers questions regarding roan population dynamics in KNP and other Parks.



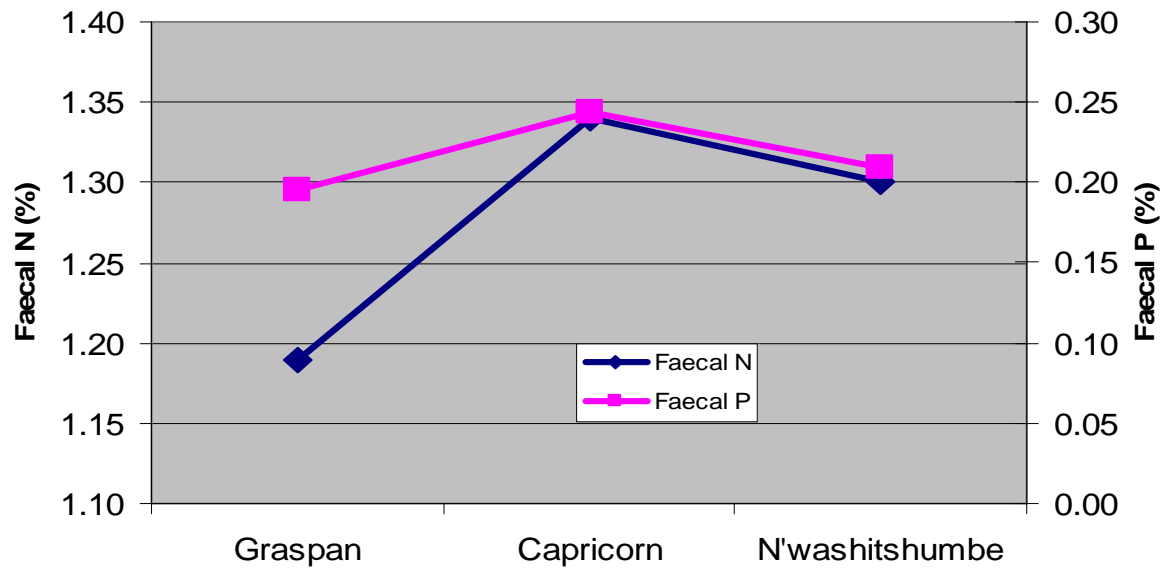
### Protein content of faecal and grass samples in different areas



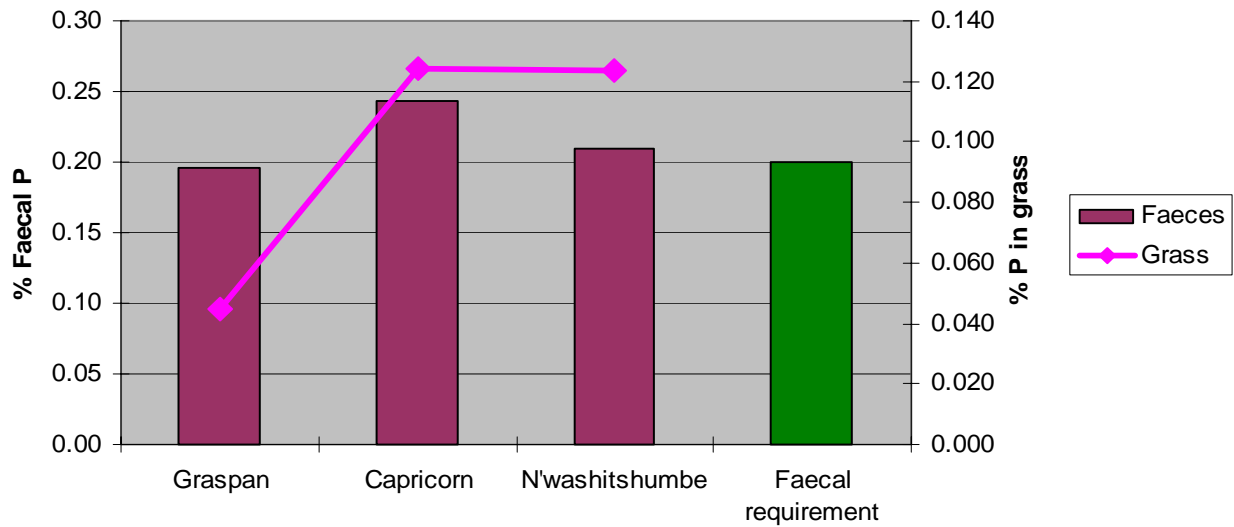
### N and Protein % in faecal samples from various different areas in SA



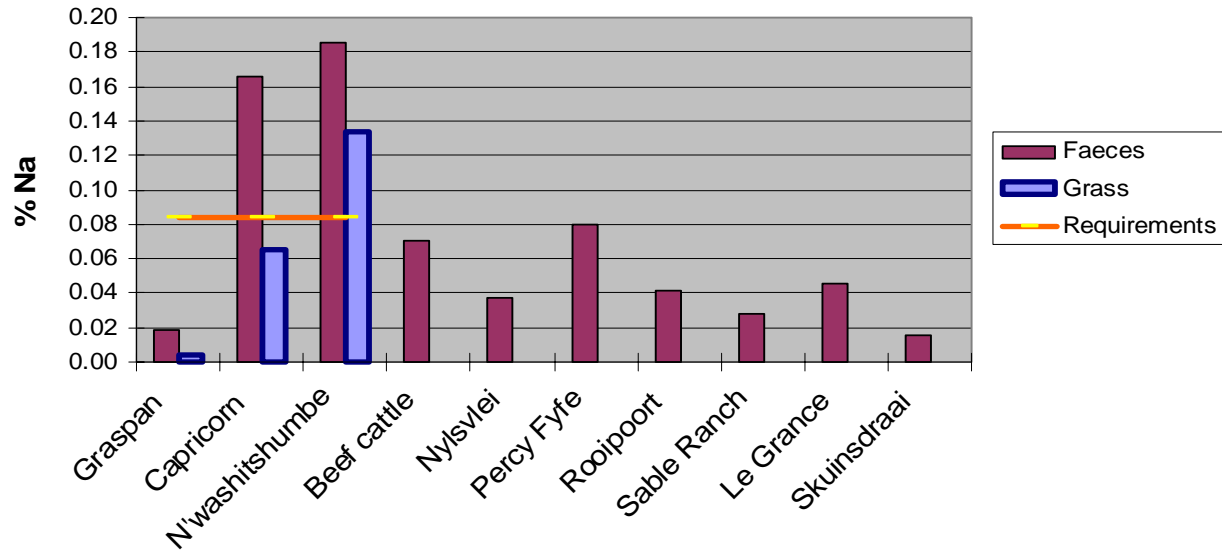
**Faecal N and P levels in different areas**



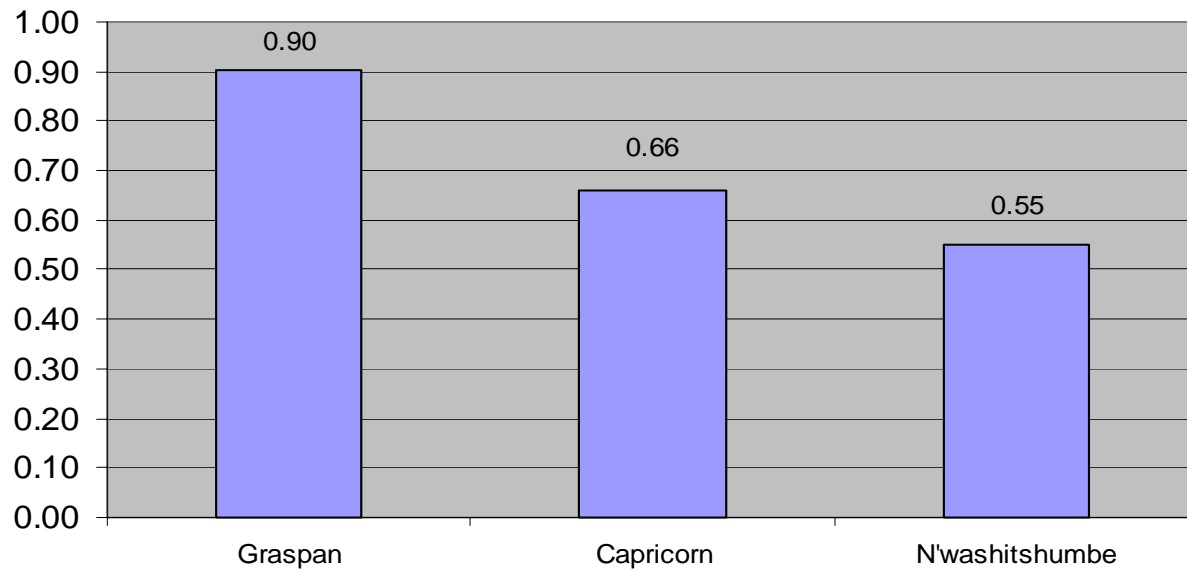
**P levels in faeces and grass in different areas**



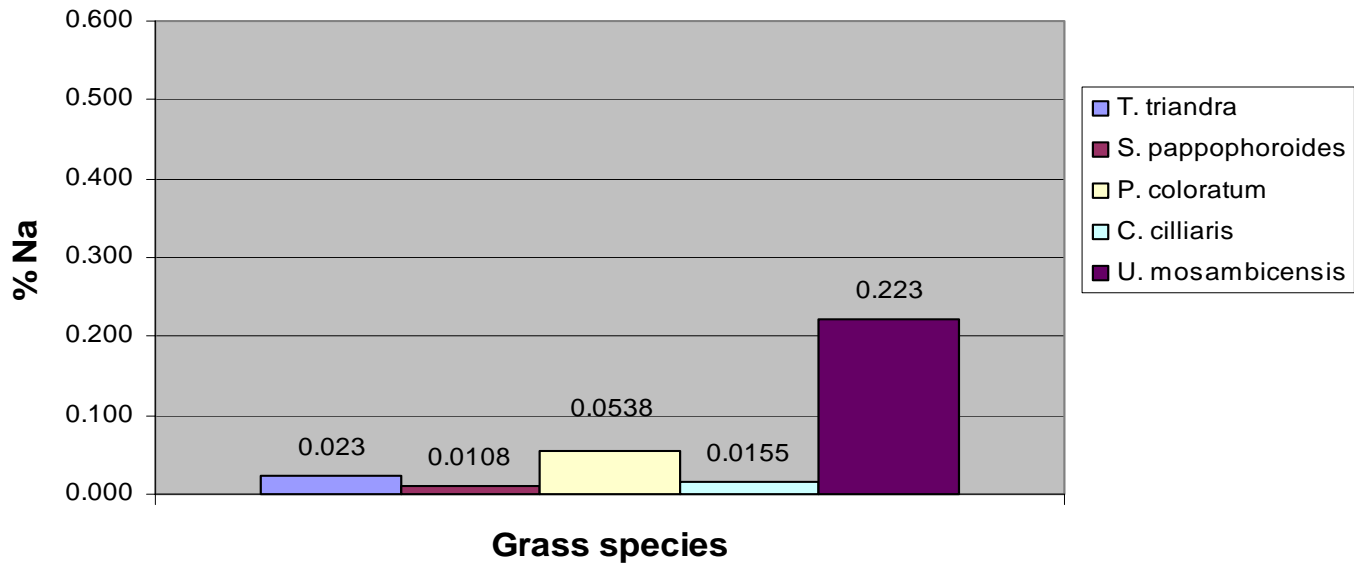
**Na content of grass and faecal samples in different areas**



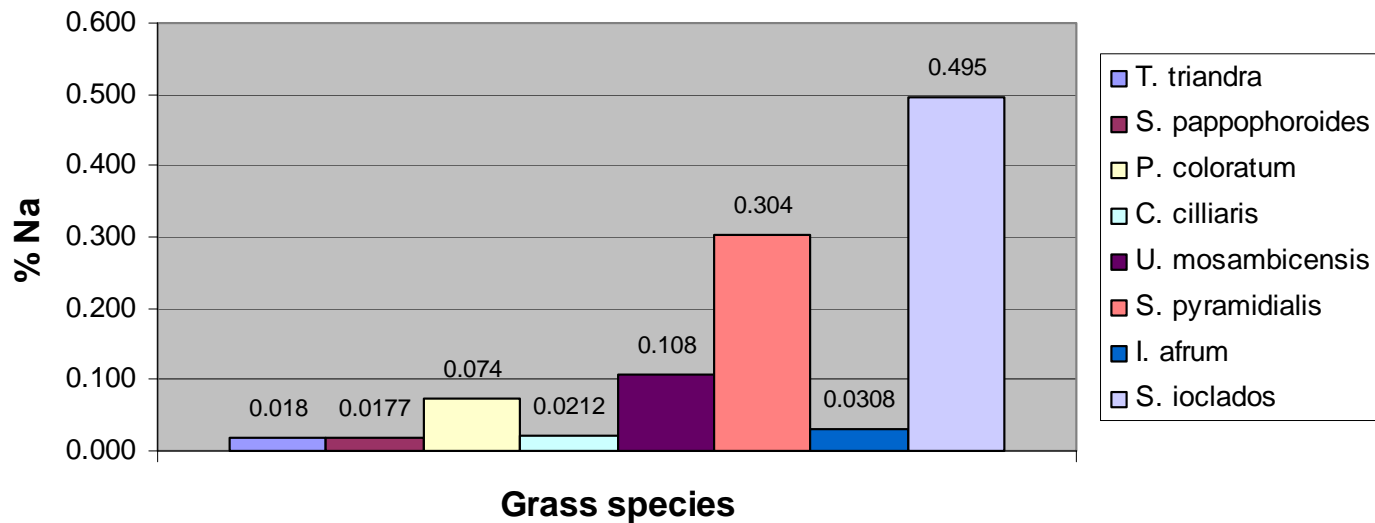
**% Ca in faecal samples from different areas**



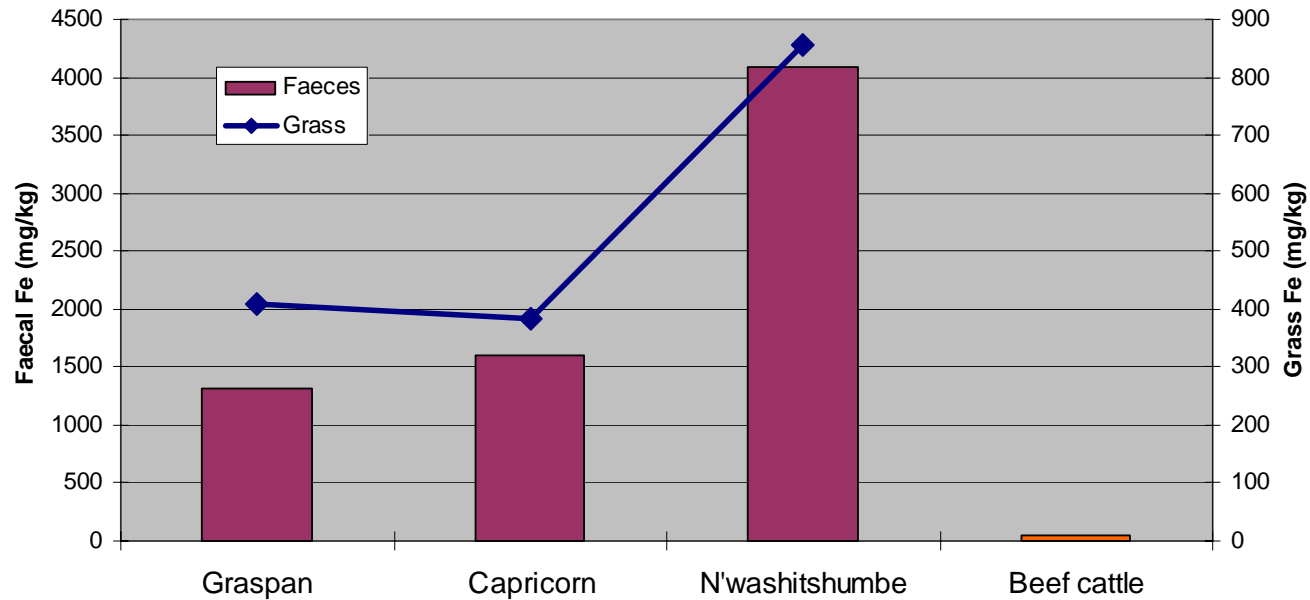
**% Na in different grass species sampled in Capricorn - late dry season**



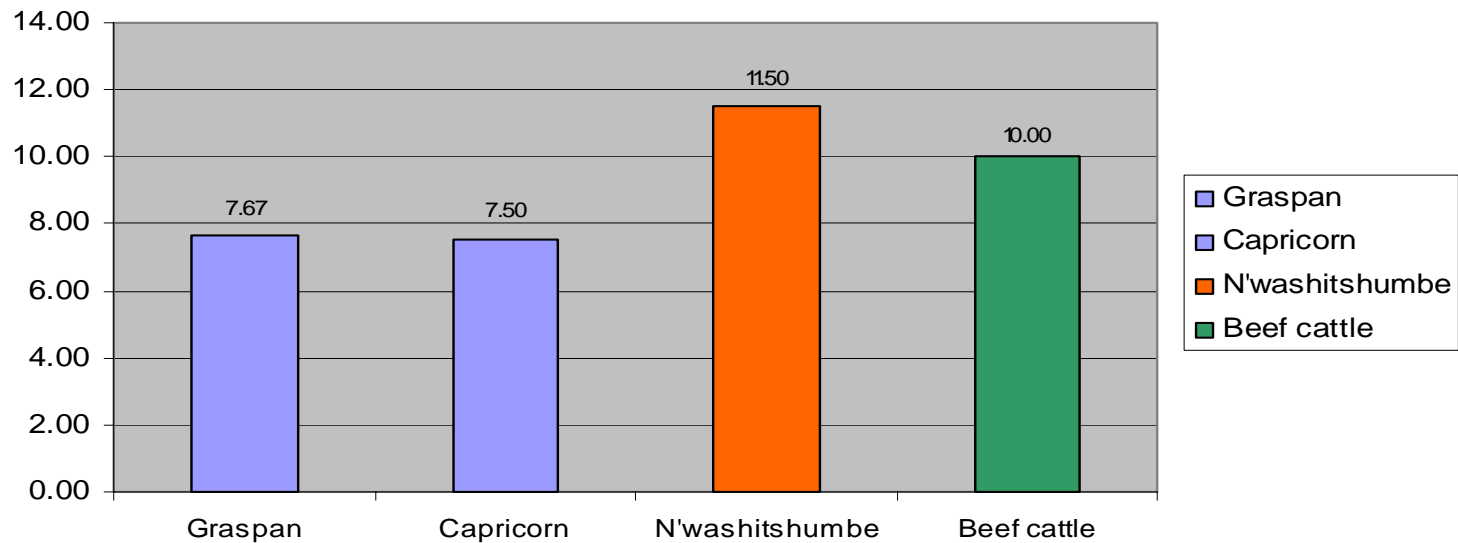
**% Na in different grass species sampled in N'watshitshumbe - late dry season**



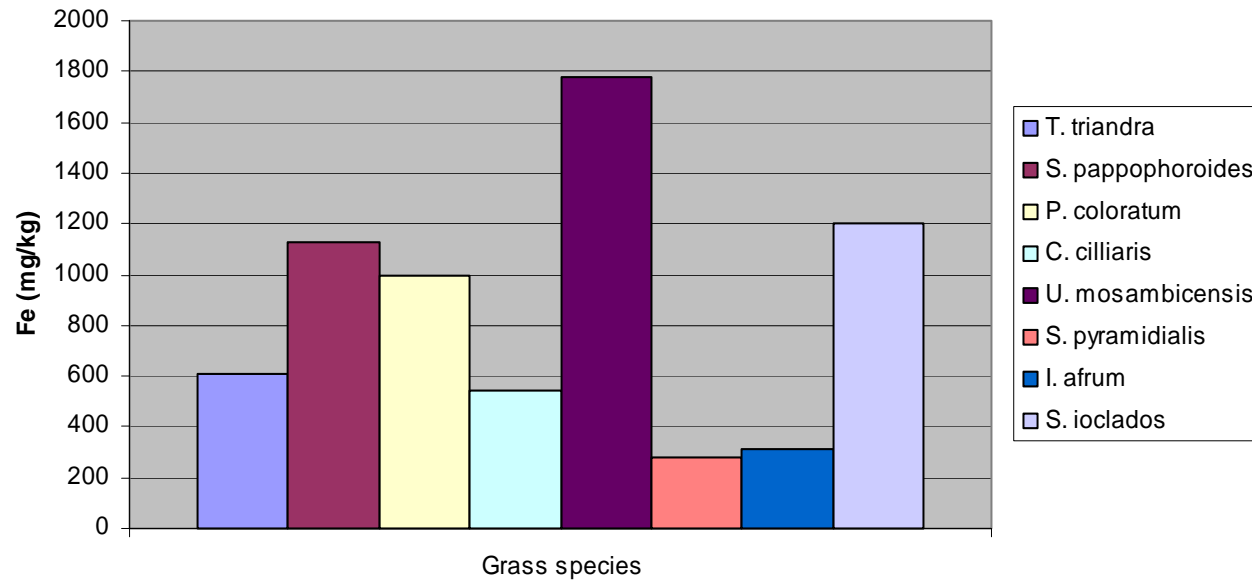
Mean content of Fe in faecal and grass samples from various areas



Cu ( mg/kg) in faecal samples from different areas (Dry season)



Fe content of grass species sampled in N'washitshumbe



**Thank you!**

