

# Feedstuffs and feeding of livestock and zoo animals



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Define tomorrow

UNISA

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## Own research areas

- Feeding grape pomace as the source of dietary condensed tannins
- Nutrient quality of various indigenous tree species browsed by springbok
- Effects of crop residues as overwintering fodder for goat production
- Ensilage of forage

# Silage

- Forage conservation with minimum loss of nutrients
- Forage with high moisture is naturally fermented under anaerobic conditions
- The main principle is the establishment of low pH and the maintenance of anaerobic conditions
- The fodder undergoes acid fermentation when bacteria produce lactic, acetic and butyric acids from sugars present in plant material

# Plants used as feed additives

- *Moringa oleifera* leaf and seed meal
- *Carica papaya* seed meal
- Macademia oil meal
- Sweet potatoes

# Control of enteric methane emission

- Three major greenhouse gases emitted by livestock sector
  - Methane, nitrous oxide and carbon dioxide
- Ruminants mainly emit methane from enteric fermentation
- Use of feed additives and plant sources to control enteric methane emission

# Zoo nutrition

- Importance of zoos
  - Leisure
  - Education
  - Conservation
  - Research
- Goals of zoos are not similar to agriculture
- Feedstuffs depend on what is available in the market

# Challenges

- Extrapolation of livestock research to zoo animals
- Limited research on zoo nutrition
- Limited research on the effects of climate change on rangeland production

# Potential collaboration

- Feed additives
- Control of enteric methane emission
- Zoo animal nutrition





# Thank you

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