



A: Boran cattle in the respiration chamber; B-D: Brachiaria, Napier and Rhodes grass plots (Photos: S. Marquardt & D. Korir)

Context

- Limited data on the productivity of livestock systems and enteric methane emissions from East African livestock fed local forages
- Controlled feeding experiment (65 days), 18 growing Boran steers, 3 experimental diets (Napier, Brachiaria and Rhodes grass), measurements: intake, live weight, digestibility, enteric methane production, biomass yields of the 3 grasses (over 2 years)

Our innovative approach

- Several varieties of Napier and Rhodes are common in East Africa, improved Brachiaria grasses are re-introduced, comparative data on agronomic performance and suitability for animal feeding is scarce

Part of the PhD project of **Daniel Korir**

First supervisor/research idea: John P. Goopy

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CLIMATE CHANGE & GREENHOUSE GAS REDUCTION

No difference in enteric methane production and performance of Boran steers fed on Napier, Rhodes and Brachiaria grass

- No difference in dry matter intake (DMI) or animal performance
- No effect of grass species on enteric methane production (g CH₄/day), methane yield (g CH₄/kg DMI) or methane emission intensity (g CH₄/kg weight gain)
- Apparent digestibility: no difference between Brachiaria and Napier (but lower for Rhodes than Napier)



RESEARCH PROGRAM ON Livestock

LIVESTOCK & ENVIRONMENT

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Cattle respiration chamber Photo S. Marquardt/ILRI

Outcomes

- Assessment of the potential of local and improved forage resources for development of climate-smart feeding strategies
- Contribution to produce local data for East Africa on methane conversion factors for accurate reporting of GHG emissions from the livestock sector

Future steps

- Intervention testing with different local forage sources (e.g. legumes) to improve animal productivity and decrease methane emission intensities

Partners

University of Hohenheim, Kassel University, Karlsruhe Institute of Technology (KIT)



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