



GLOBAL RESEARCH ALLIANCE

ON AGRICULTURAL GREENHOUSE GASES

[South Africa]



**Summary of relevant activities, future
priorities and capability needs.**

**Input to 2025 Livestock Research Group Meeting
Nairobi, Kenya**

Relevant activities

- Development of THI and early warning systems as **adaptation and mitigation strategies** in beef and dairy cattle
- Effect of heat stress on milk production, udder health, milk composition and **methane emissions** in dairy cattle
- The **carbon and water footprint** of diverse beef cattle genotypes in South Africa
- Structured **crossbreeding** in the emerging beef sector **to reduce methane intensity**

Future priorities

- **Measure the actual on-farm methane emissions** of beef cattle under different vegetation types over a whole production system
- Global Methane Genetics project (Bezos Earth Fund)
 - Identify **low methane producing** animals – optimize breeding systems
 - **Validate methane emission factors** for cattle in the feedlot
 - Include methane emissions in a phenotypic **selection index** of biological efficiency

Capability needs

- Currently 1 fixed GreenFeed system and 2 mobile systems
- In the process of acquiring 3 more mobile GreenFeed Systems
- *Have GrowSafe systems for measuring individual feed intake and body weight in real time*