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Reproductive performance of cattle in Africa – a systematic map of recent evidence

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This study set out to gather and analyse recent studies on cattle reproduction in selected sub-Saharan African countries. The goal was to create an organised overview of current knowledge and identify areas where research is strong and where more research is needed.

Optimising cattle reproduction is essential for

sustainable livestock farming. In high-income countries, there is general agreement on what constitutes good reproductive performance. However, in low- and middle-income countries (LMICs), the wide variety of farming methods and environmental conditions make it harder to define optimal reproduction.



- The research showed a range of reproductive performance in cattle, but the results were generally satisfactory. This indicates that farmers in LMICs can achieve good reproductive outcomes.
- This systematic map highlights opportunities to ensure that research is more coordinated and to help research funders allocate funds to close knowledge gaps.



Figure 1. Number of retrieved studies published each year between 2012-2022

Figure 2. Map on left shows number of female cattle publications per country; Map on right shows number of bull publications per country

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Number of papers varied over time:

- Peaks: 2014-2016 and 2021
- Fewer studies: 2012-2013 and 2017-2020 (Fig 1)

Reproductive parameter values:

• A range of values was reported – overall, the values were reasonable

Focus on female cattle reproduction:

- 133 studies on female cattle
- Only 11 studies on bulls (Fig 2)
- Most research in Ethiopia and Kenya

Potential gaps:

- Local knowledge may be missing in databases
- Non-English studies not included

Figure 3. Venn diagram showing reproductive performance parameters in each publication

Range of reproductive parameters studied:

- Some studies

 examined single
 factors
- 24 studies looked at four factors
- No study covered all factors (Fig 3)

Materials& Methods

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Literature search:

- In Web of Science, Scopus, PubMed, Google Scholar, Research4life, CAB Direct, The Networked Digital Library of Theses and Dissertations, Gates Open Research, and CGSpace.
- Articles published between 2012 and 2022, in nine SSA countries, excluding articles reporting trials or literature reviews, and those not written in English.

Data:

- Extracted either directly from the database, scraped from the website using Octoparse, or extracted using Publish or Perish.
- Study design, study population and reproductive performance of female and male cattle (bulls) was extracted.
- CADIMA was used to manage this project.

Read the full article here:



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