



**TESTED  
ELSEWHERE**

# Improving the reproductive performance of small ruminants

## Key messages

- Reproductive disorders and associated losses are an important constraint for small ruminant development in Ethiopia.
- Designing and implementing appropriate interventions to optimize reproductive performance is key to improve livelihoods, particularly for women who are dependent on small ruminant production.
- In order to control infectious causes for poor reproductive performance, it is important to identify and characterize them properly.

## Problem statement

- The potential of small ruminants to improve livelihoods of smallholders is constrained by poor reproductive performance. Infectious diseases remain the most important constraints to the development of the sheep and goat industry.
- Reproductive wastage in the form of abortion represents an important cause financial loss. Also abortion can have severe public health implications since some pathogens involved are zoonotic.

## Solutions

- Training on cause, impact, control and prevention of infectious diseases affecting fertility of small ruminants.
- Farmers awareness creation about abortion and safety precautions to minimize exposure to zoonoses.
- Improve husbandry system, for example, through implementation of “focus feeding” coordinated with reproductive events to control the reproductive process and improve reproductive success.
- Identifying and characterization of causes of abortion through systematic outbreak investigations.
- Design and implement control options for important causes of abortion in sheep and goat.
- Longitudinal monitoring and evaluation of reproductive performance.



## Benefits

- Increased lambing/kidding rates.
- Increased small ruminants' contribution to rural livelihood security.
- Improved awareness of the community about abortion and related zoonotic risk.
- Increased involvement of the veterinarians and extension agents in herd health management and prevention of abortion.
- Generate key evidence to inform research and policy.

## Evidence

- The role of some abortion causes in small ruminants, for example *Brucella* spp. has been documented for different regions in Ethiopia. A study in project sites found high prevalence for *Chlamydia abortus*, *Toxoplasma gondii* and *Coxiella burnetii*, all zoonotic pathogens for which very little is known in Ethiopia.

## Suitability

- The intervention is suitable in all production systems to alleviate poverty, subsistence livelihoods, food security and support women's empowerment.
- Ideally the intervention is implemented with interventions targeting breeding, health, gender, and feeding systems.

### Resource requirements (low to high)

Land	● ○ ○ ○ ○ ○
Water	● ○ ○ ○ ○ ○
Labour	● ● ● ● ○ ○
Cash	● ● ● ○ ○ ○
Access to inputs	● ● ● ● ○ ○
Knowledge and skills	● ● ○ ○ ○ ○

### Impact areas (low to high)

Food security	● ● ● ○ ○ ○
Human nutrition	● ● ○ ○ ○ ○
Employment and livelihoods	● ● ○ ○ ○ ○
Natural resources base	○ ○ ○ ○ ○ ○
Gender empowerment	● ● ○ ○ ○ ○
Market linkages	● ● ○ ○ ○ ○

## Value chain focus



## Contacts

Gezahegn Alemayehu, ILRI, [gezahegn.alemayehu@cgiar.org](mailto:gezahegn.alemayehu@cgiar.org); Biruk Alemu, ILRI, [B.A.Gemeda@cgiar.org](mailto:B.A.Gemeda@cgiar.org); Hiwot Desta, ILRI, [H.Desta@cgiar.org](mailto:H.Desta@cgiar.org); Barbara Wieland, ILRI, [b.wieland@cgiar.org](mailto:b.wieland@cgiar.org)

## Acknowledgements

This is a product of the CGIAR research programs on Livestock and Fish (2012-2016) and LIVESTOCK (2017-2022) as well as the International Fund for Agricultural Development (IFAD)-funded SmART Ethiopia Project - Improving the Performance of Pro-Poor Sheep and Goat Value Chains for Enhanced Livelihoods, Food and Nutrition Security in Ethiopia. The project is led by ICARDA in collaboration with ILRI, national and other international partners. The Project thanks all donors and organizations who globally support its work through their contributions to the [CGIAR system](#). Organizations contributing to this work are: ICARDA, ILRI, ARARI, OARI, SARI, TARI