



Feed the Future Innovation Lab for Livestock Systems

Addressing Young Stock Mortality in Smallholder Farms and Pastoral Herds of Ethiopia

Ethiopia is poised at the brink of a new era, with the population rapidly increasing while the food supplies cannot keep up with the demand. As an integral part of Ethiopian agriculture, livestock contributes considerably to an economy that accounts for 19% of the GDP and 20% of the export earnings. Although the livestock population is the largest in the continent, the productivity and competitiveness is in general low due to various animal diseases, feed problems, poor husbandry, and poor marketing infrastructures.

Traditionally, livestock owners have been raising many animals under an inefficient system to buffer against losses in production that result from disease, compared to the alternative of raising fewer animals in a more efficient, well-managed system. Ongoing investigation of the epidemiology of young stock morbidity and mortality will help in prioritizing major health and management problems along with critical control points in livestock systems.

Causes and risk factors

The project goal is to understand causes and risk factors for young stock mortality in cattle, goats and camels, while also providing input on the pilot testing of health interventions. For the latter, the project team works closely with the Young Stock Mortality Consortium led by the Ministry of Livestock and Fisheries that also includes Tufts University and the University of Edinburgh. The consortium has developed animal health intervention packages. These can be guided by project data on causes of sickness and death in young livestock.

The project is focused on mixed-crop livestock farms, peri-urban dairy farms, and pastoral production systems. The project also has a strong human and institutional capacity development at the universities of Addis Ababa and Gondar, as well as at the main government laboratory system for Ethiopia. Researchers, graduate and postdoctoral students from these institutions are involved in the collaborative research.

Objectives

The main goal of this project is to generate new epidemiological information on the major causes of young stock morbidity and mortality that hampers the productivity of livestock in Ethiopia, and evaluate government-planned intervention strategies.



Two women in Ethiopia learn to use double-guarded culture swabs for detecting viruses and bacteria in dairy calves, with Dr. Chalachew Yitbarkek from University of Gondar, top left, and associate professor Munashe Chigerwe from University of California, Davis, center. (Credit: W. Jackson/UCDavis)



Specific Aims

- Collect epidemiologic data on young stock management, farm factors, feed resources, livestock disease, and socio-demography of livestock producers.
- Assess risk factors for young stock mortality in Ethiopia.
- Evaluate intervention strategies for reduction of young stock losses that align with the Ministry of Livestock and Fisheries (MoLF) Livestock Master Plan.
- Build human and institutional diagnostic and research capacities at Addis Ababa University, University of Gondar, and the National Animal Health Diagnostic and Investigation Center.
- Provide training to extension officers, livestock keepers, and prioritize involvement of women in all study components.

Contacts and Key Partners

Principal Investigator:

- Dr. Woutrina Smith, University of California, Davis

Collaborator institutions and Co-PIs:

- Addis Ababa University:
 - Dr. Nigatu Kebede
- University of Gondar, National Animal Health Diagnostic and Investigation Center:
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