

## 2018 Reciprocal Meat Conference – Education and Extension Tools

## Meat and Muscle Biology™



## Training of Trainers on Meat Hygiene to Improve Food Safety of the Domestic Meat Supply Chain in Ethiopia

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### Objectives

Animal-sourced foods (ASFs), including meat, provide nutrients that are beneficial for physical and cognitive development, especially in developing countries. Ethiopia is home to the largest livestock inventory in Africa, but inefficiencies in livestock and meat industries contribute to low-per capita domestic consumption of meat. The combination of extensive periods of fasting from ASFs, knowledge gaps in hygienic handling and sanitation, lack of infrastructure, and weakly enforced food safety regulations provide food safety risks in an already protein-deficient population. The objective of this study is to identify pathways to improve safety of the Ethiopian domestic meat supply chain and utilize a training of trainers (ToT) program to initiate these changes.

### Materials and Methods

In October of 2016, a needs assessment was conducted to identify pathways for improvement along the supply-chain to prevent or reduce contamination of meat. Site visits and interviews were conducted at abattoirs and butchers. As a result of the assessment, it was determined that building the educational capacity of abattoir and butchery workers would have a large influence on improving food safety. The results of the needs assessment were used to develop training concepts and materials. In August of 2017, a 4-d ToT program was administered to 20 participants (18 men, 2 women) who represented multiple facets and regions of the meat supply chain. Trainees participated in classroom training, which focused on adult learning and training principles, common food safety hazards, and general hygiene and sanitation concepts. Trainees participated in field evaluations of an

abattoir and butchery and presented observations to the group. Based on their evaluations, trainees planned and presented their training objectives for abattoir and butchery workers. Trainees were also given a Pre- and Post-Test to assess initial knowledge and knowledge increases.

### Results

Eighteen butcher shops were observed in Addis Ababa, Ethiopia in October 2016. The assessment identified all 18 butchers sold meat for raw consumption, only two (11.11%) sold further processed meat. Despite having refrigerators for beverages, only eight (44.44%) refrigerated meat. A handwashing sink was available in 17 (94.44%) butcher shops, but accessibility varied greatly. Frocks were used in all 18 (100%) butcher shops, but few butchers used head coverings, and many allowed jewelry. The needs assessment also indicated that no worker trainings had been conducted and ground maintenance was needed in all facilities.

Pre- and post-tests were conducted prior to and after TOT. Using a paired *t* test, test scores were compared and indicated a 9.62% ( $P = 0.0001$ ) increase in knowledge between Pre- (73.29%) and Post- (82.31%) tests. As a result of the ToT program, 166 people (152 men, 14 women) representing 42 Woredas (districts in Ethiopia) have been trained in meat hygiene and food safety concepts.

### Conclusion

The needs assessment and ToT programs was successful in determining key areas of improvement and building the capacity and of trainers. The knowledge is currently being successfully disseminated to abattoir and butchery workers throughout Ethiopia.