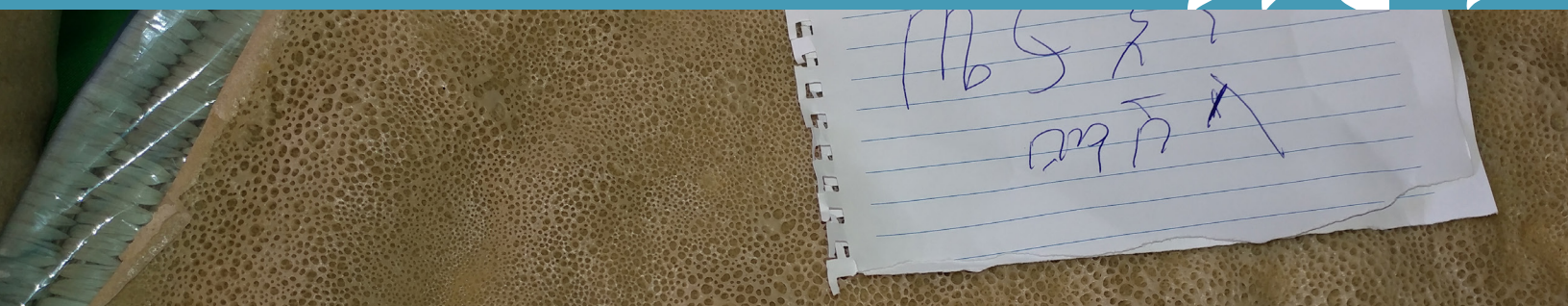




FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



PROJECT CONTACTS

Dr. Joseph Awika

Principal Investigator
Texas A&M University
awika@tamu.edu
979-845-2985

Dr. Kebede Abegaz

Co-Investigator
Hawassa University
abegaz2005@yahoo.co.uk
251 912 021734

Prof. John Taylor

Co-Investigator
University of Pretoria
john.taylor@up.ac.za
27 12 420 4296

DEVELOPING SUPERIOR FUNCTIONALITY IN SORGHUM FOR FOOD APPLICATIONS TO PROMOTE THE SORGHUM VALUE CHAIN IN ETHIOPIA

Few foods define Ethiopia's cuisine like injera. While traditionally prepared in the home, the growth of the middle class and rise in disposable income has seen more families purchasing their injera from local vendors. This emerging market is opening new doors – and new demands – for food product development.

While teff has traditionally served as the base for injera, sorghum is commonly incorporated in injera fabrication – thanks to both its affordability and availability. As a drought-resistant and heat-tolerant crop, sorghum is grown widely and is a staple crop for many smallholder farmers, representing approximately 25 percent of all cereal production in Ethiopia. However, due to its physio-chemical traits, sorghum tends to underperform in the making of injera. This limits its use as a base ingredient and keeps the price of injera higher with the dependence on teff, which sells at more than twice the price of sorghum.

production constraints and opportunities for local farmers while simultaneously producing the grain needed for food product testing. Meanwhile, food scientists are working with food product development labs and local entrepreneurs to assess the performance of the IHD sorghum in injera and other grain-based products including hard rolls and pan bread.

EXPANDING MARKETS AND VALUE

The goal is to have sorghum varieties that carry the characteristics to produce more voluminous, tender food products while at the same time demonstrating the quality needed for consumer acceptability. This would give injera producers and others greater options for incorporating sorghum blends into their products, helping to reduce costs and providing an expanded market to the millions of smallholder sorghum producers across the country. Currently, an estimated 85 percent of sorghum injera is consumed by the rural poor with very little access to urban markets for farmers.

But functionality has to be paired with strong performance in the field, so breeders continue to evaluate the strengths and challenges of producing the IHD lines in the Ethiopian growing environments. Those results will go right back into the breeding process as researchers modify the existing lines to maximize food product functionality while also optimizing them for strong production in the face of local stresses and constraints.

It is a complex problem, but thanks to multi-institutional collaboration and innovative approaches, solutions are on the way.

BREEDING AND FOOD SCIENCE UNITE

In an effort to improve the functionality of sorghum and expand the opportunities for its use in commercial grain-based food products, plant breeders and food scientists have teamed up under the Feed the Future Innovation Lab for Collaborative Research on Sorghum and Millet to test new varieties bred specifically for their high digestibility characteristics. Improved highly-digestible (IHD) sorghum lines have been developed at Texas A&M University and have displayed improved performance in food processing over traditional varieties. Plant breeders are working together to test these IHD lines in Ethiopian environments in order to evaluate



USAID
FROM THE AMERICAN PEOPLE



Collaborative Research
on Sorghum and Millet



INNOVATING SCIENCE TO BUILD THE CROPS OF THE FUTURE...

DRIVING INNOVATION

The Feed the Future Innovation Lab for Collaborative Research on Sorghum and Millet is a global hub of cutting-edge research focused on increasing the resiliency of small-scale sorghum and millet producers in the face of climate change and creating entrepreneurial opportunities to reduce poverty and hunger.

The Lab's portfolio is aimed at the development of new technologies, management practices and food and feed products to help serve some of the world's most vulnerable populations. It enlists more than a hundred researchers, postdoctoral associates, graduate students and project management team members representing research centers, national programs and universities from around the globe to create a robust and impactful program to drive innovation in addressing food insecurity.

WHAT WE ARE DOING:

CLIMATE-SMART AGRICULTURE

Harnessing both time-tested breeding methods as well as the most advanced in genomic tools to create new crop varieties that are more drought, disease and pest resistant for improved yields and higher incomes for the smallholder farmer

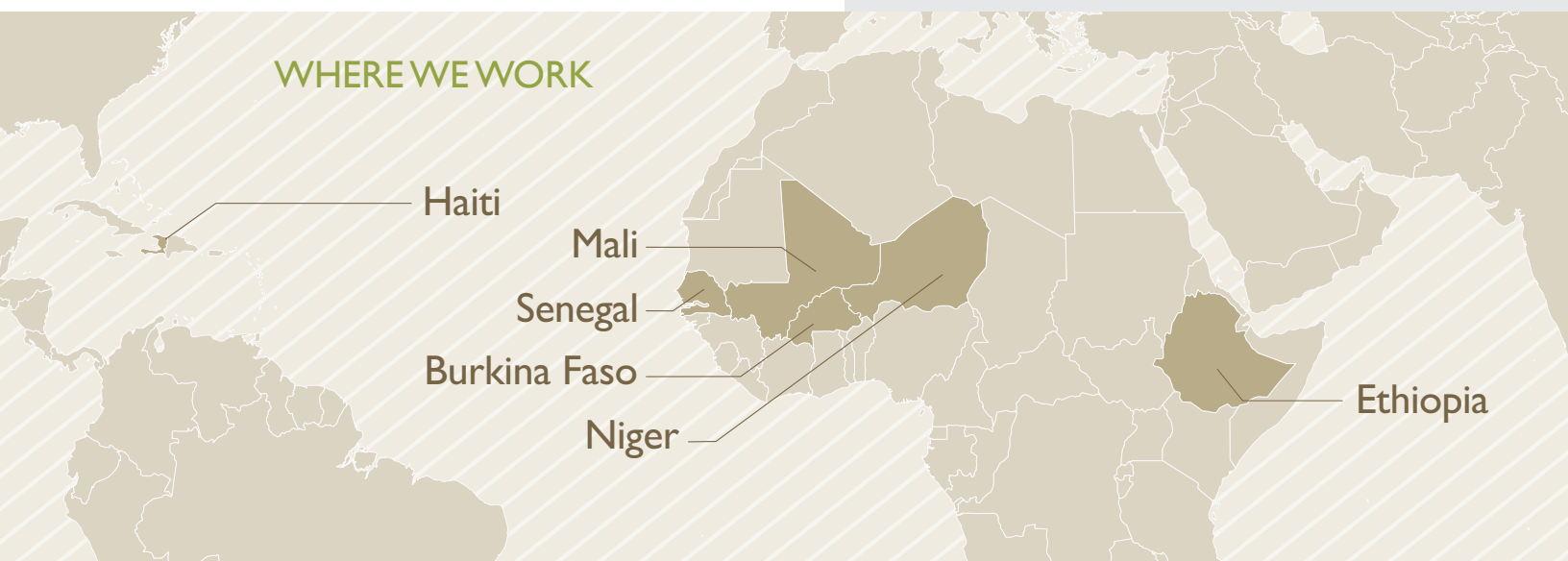
IMPROVED RESILIENCE

Designing innovative production techniques aimed at improving crop performance while combatting devastating pests in order to increase food security throughout rural areas

MARKET ACCESS AND DEMAND

Working to drive improved nutrition, business opportunities and higher crop value through a new wave of processed and fortified food products that meet growing demands by urban and rural populations alike

WHERE WE WORK



Collaborative Research
on Sorghum and Millet

FEED THE FUTURE INNOVATION LAB

FOR COLLABORATIVE RESEARCH ON SORGHUM AND MILLET

Kansas State University | 148 Waters Hall | Manhattan, KS 66506 | 785-532-6309

WWW.K-STATE.EDU/SMIL



@Sorg_Millet_Lab

