



SORGHUM GENETIC EXCHANGE BENEFITS FOR KANSAS AND THE USA

By creating a network of researchers across the globe, the Feed the Future Innovation Lab for Collaborative Research on Sorghum and Millet (SMIL) brings home countless benefits to farmers in Kansas and throughout the USA.

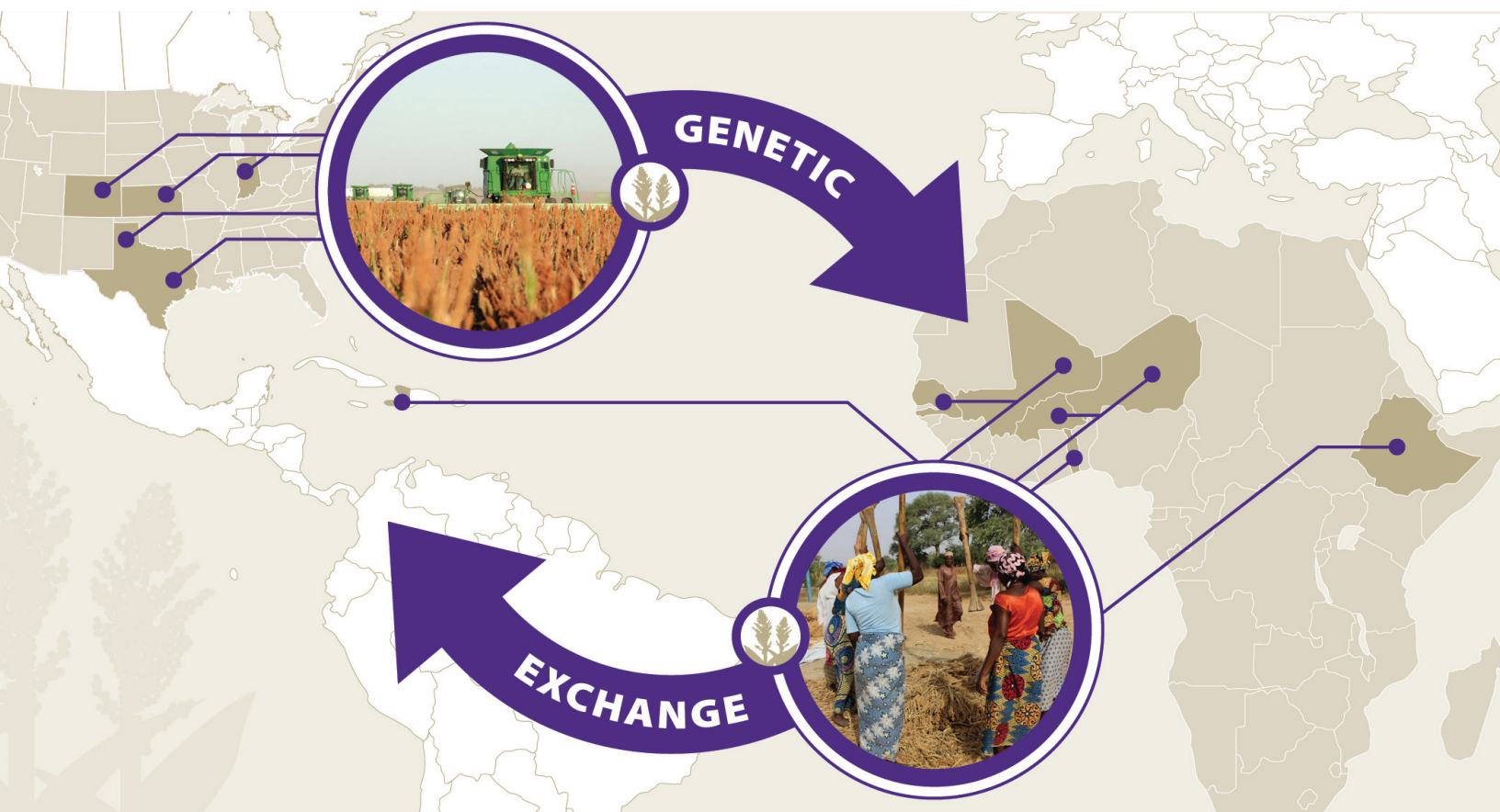
SMIL projects and investments are dedicated to creating solutions to the most challenging problems facing sorghum and millet. When we harness the power of a global

network of researchers, we find answers effectively and efficiently.

Kansas is the number one sorghum-producing state in the United States. With the ability to exchange knowledge, research, germplasm, and more within our network in Haiti as well as in West and East Africa (where sorghum originated), we are able to respond to the needs of farmers in the U.S. and globally, including:

Collaborative Research on Sorghum and Millet

- **Providing worldwide access** to genetic material for sorghum breeding.
- **Developing sorghum material** to adapt to emerging threats.
- **Producing stress-resistant sorghum varieties** suited for some of the most arid regions in the USA and around the world.



The cross-continental exchange of genetic information among collaborating universities, research centers and other agricultural institutions is key to accessing sorghum's maximum potential in the field and beyond.

RAPID SOLUTIONS TO SUGARCANE APHID DEVASTATION OF USA SORGHUM FIELDS

In 2013, farmers from Louisiana to Kansas experienced how tiny green pests destroyed sorghum fields. How bad was the devastation? Farmers saw a loss of up to 50% of grain sorghum yield, representing an \$8 million loss to those farmers in one season.

The most promising line of defense against sugarcane aphid was the development of resistant sorghum lines. Because of our global network, U.S. seed companies had access to existing sugarcane aphid-resistant material from Haiti, West and East Africa.

Thanks to a global network of producers, breeders and research teams, there were existing germplasm, genomics data, resources, and experiences that could be quickly leveraged from nearly 30

years of global research. Our research partners in Africa had already evaluated 464 sorghum varieties for resistance to sugarcane aphid in Botswana and Zimbabwe.

Building on previous USAID investment and through SMIL, the official registration of RTx3410 through RTx3428 sorghum germplasm in the USA has provided seed companies with sorghum parent lines to develop sugarcane aphid-resistant seed for production and marketing.

Going forward, the collaboration with these global research networks will allow continued solutions to the next generation of production challenges for sorghum farmers in Haiti, Africa, USA and around the world.



To find out more about these discoveries and other SMIL projects, visit:
<https://smil.k-state.edu>

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