USU-bred barley headed for humanitarian use in Ethiopia

By USU Media Relations
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It's a very long way (more than 8,000 miles) from Logan, Utah, to Ethiopia, but barley developed by researchers at Utah State University recently began a journey to that African nation, where it will be planted as part of a humanitarian project lead by Morrell Agro Industries (MAI), part of the Utah-based Morrell Family Charities.

Ethiopian researchers hosted a field day to show Morrell Agro Industries staffers the results of experiments with crops and growing methods the organization is introducing to the area. The barley variety shown here was bred at Utah State University. Test plots of Aquila barley, a variety bred in by the Utah State University Small Grains Research group. Evan Maxfield, of Morrell Agro Industries (third from left) and Ethiopian researchers are working together to grow crops during the country's dry season. Producing more food is critical to relieving famine caused by prolonged drought and climate change.

The two barley varieties, Walker and Aquila, have traits that make them a good fit for growing conditions in Ethiopia, where changing climate and prolonged drought are causing crop failures and consequently, famine. Evan Maxfield, an agronomist with MAI, said the two barley varieties have shown great promise in Ethiopian test plots in drought-prone areas. Crops traditionally grown in Ethiopia have poor drought tolerance, so Maxfield and others sought out crops and varieties that were more likely to survive there.

"MAI introduced dry farming to Ethiopia in October 2008 when we planted barley, wheat, safflower and chickpea at the end of the rainy season," Maxfield said. "The locals laughed at our dry-farming idea and said it would not work. In February and March of 2009, we successfully harvested the first-ever crops of these types grown there."

Walker and Aquila are both six-row barley varieties bred by scientists in the USU Small Grains Research program with support from the Utah Agricultural Experiment Station. Both are available through the Utah Crop Improvement Association (UCIA), also based at USU, and while they are not widely grown in Utah, both varieties have traits that made them interesting to MAI. Stan Young, director of the UCIA, said both develop seed heads early and produce heavier grains relative to many other varieties so growers will get an adequate harvest even in less than ideal conditions and with little or no input of fertilizer and pest control. They also produce stronger straw so plants resist lodging, or lying down in the field.

Walker and Aquila will be part of efforts by MAI to produce and distribute new crops that will empower Ethiopians to combat famine and improve their economic conditions, Maxfield said. He was part of a team financed by Morrell Family Charities that visited Ethiopia in 2008 to assess local needs.

“The organization had been drawn to Ethiopia to help the community of Kersa Illala, and the people there indicated that they needed agricultural help as well as other humanitarian efforts,” Maxfield said. “The plan now includes teaching dairy practices, introducing improved nut and fruit trees, improving irrigation practices, developing family gardens and introducing drought-tolerant crops to address some of the area’s needs.”

The barley crop will be used to support the creation of a 300-cow dairy, which USU students helped design and plan. Morrell’s humanitarian activities in Ethiopia are spreading beyond the community where they began, and MAI has begun a program for Peasant Farmers Associations to train people to use new plants and technologies. In addition, the group is working with Ethiopian government agricultural researchers to test plant varieties that are new to the country in an effort to introduce crops that will help more of its citizens feed themselves and boost their economic stability.

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