



BREADFRUIT INSTITUTE



Diane Ragone, PhD, Director

PROGRESS REPORT - Spring 2013

Breadfruit Returns to Tahiti

Tahiti is renowned as the source of breadfruit cultivars now growing in the Caribbean and other tropical countries as a result of Captain Bligh's voyages in the early 1790s. The Breadfruit Institute and Global Breadfruit have returned the favor, and, at the request of the government of French Polynesia, introduced a new breadfruit to Tahiti! In March, Josh Schneider of Global Breadfruit delivered their order of 2,500 Ma'afala trees to the Ministry of Agriculture. During a whirlwind trip to three islands he met with the President, the Minister of Agriculture, and other staff, and joined more than 2,000 people at an 'Uru (Breadfruit) Festival in Papeete to celebrate their traditional staple.



Plant a Tree of Life - Grow 'Ulu



Thanks to the generosity of the Ceres Trust, we are distributing more than 4,000 Ma'afala trees in Hawai'i during the first year of this project. We are partnering with myriad community organizations, schools, churches, and other groups to provide residents with breadfruit trees to plant in their yards and communities. Nearly 1,300 trees have been distributed on Kaua'i and O'ahu, and 3,000 trees are being tended in nurseries on four islands for distribution this spring. Hawai'i's Department of Land and Natural Resources Kaulunani Community & Urban Forestry Grant Program has provided additional funds for outreach materials.

Samoa Government Benefits from Breadfruit Agreement

Dr. Ragone presented a check for \$5,203 to the Honorable Fonotoe Nuafesili Pierre Lauofo, Deputy Prime Minister of Samoa and Acting Minister of Agriculture, in the capital of Samoa in December. This payment represents revenues from the first full year of Ma'afala tree sales. It demonstrates our firm commitment to benefit-share revenues that NTBG receives from sales of plants by Global Breadfruit of Samoan breadfruit cultivars, thus acknowledging their indigenous resources and their contribution towards global food security.



Much of the work of the Breadfruit Institute is supported by grants and contributions. We continue to seek additional funding to accomplish our mission. You can help us in this critical endeavor. To make a donation, please visit: <http://ntbg.org/breadfruit/donate/plantatree.php>

Two Samoa's 'Ulu Summit

American Samoa's leadership sees breadfruit as a potential for economic development through production of flour for the rapidly expanding market for gluten-free products. They also recognize the importance of having a reliable source of trees for local food security.



Dr. Ragone was invited to be the keynote speaker at an 'Ulu Summit in Pago Pago, American Samoa, convened by the Governor, Honorable Togiola Tulafono.

Participants included staff from government agencies

in American Samoa and Samoa; the Pacific Business Center Program, University of Hawai'i (UH); food technologists from UH and the Scientific Research Organization of Samoa; and, from the private sector, FoodSource, a C.H. Robinson Company, and Natural Foods International.

Research & Distribution Update

- A total of 34 cultivars have now been successfully initiated and are being maintained in *in vitro* culture at Dr. Murch's laboratory at the University of British Columbia Okanagan for conservation and distribution. Initiation is the first, and one of the most challenging, steps of the distribution process.



- Global Breadfruit has developed commercial micropropagation methods for four cultivars, Otea, Puaa, Ma'afala, Ulu fiti, and can now ship weaned plants from production facilities in Europe, Central America, and Florida.

- Our paper "Identification of Pro-Vitamin A Carotenoid-Rich Cultivars of Breadfruit" will be published in the *Journal of Food Composition & Analysis*. Vitamin A deficiency is the leading cause

of preventable childhood blindness, and is also responsible for millions of deaths annually.

- We have identified elite cultivars in our breadfruit collection with high levels of pro-vitamin A carotenoids, and have targeted them for micropropagation and distribution.



'Ulu fiti, a very nutrient-rich breadfruit cultivar

Education and Outreach



More than 2,500 people attended the second Puna Breadfruit Festival on March 2 to celebrate breadfruit and coconut. The festival is part of the *Ho'oulu ka 'Ulu* project to revitalize breadfruit in Hawai'i.

Ian Cole, the Institute's Collection Manager/Curator, gave a talk on breadfruit to more than 200 teachers and staff at Kamehameha School on Maui. Ian and Food Service Manager John Cadman demonstrated how to cook breadfruit and then challenged 20 participants to use the cooked fruit to create a dish in 30 minutes!

Seeds of Hope

Seeds of Hope, a new film about Hawai'i's return to local and traditional methods of growing food, includes a segment on Dr. Ragone and her decades of work on breadfruit. The film premiered at the Hawai'i International Film Festival and is being shown at venues throughout the state, including a special showing to more than 70 state legislators and representatives of other state agencies and farming organizations. Watch the trailer at:

<http://www.seedsofhopethemovie.org/>



Follow the Breadfruit Institute on



BREADFRUIT INSTITUTE - NATIONAL TROPICAL BOTANICAL GARDEN

3530 Papalina Road, Kalaheo, Kauai, Hawaii 96741

Phone: 808.332.7324 ext 221 Fax: 808.332.9765 www.breadfruit.org



BREADFRUIT INSTITUTE



Diane Ragone, PhD, Director

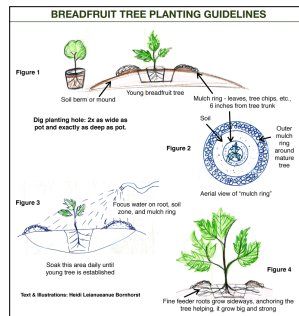
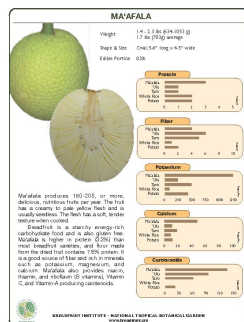
PROGRESS REPORT - Fall 2013

Plant a Tree of Life - Grow 'Ulu



We distributed 4,788 Ma'afala trees on six Hawaiian islands in Year 1 of this project. More than 160 organizations and groups participated, including 45 schools, 14 churches, and numerous groups that work with native Hawaiians, other Pacific Islanders, and low-income residents. Several large distributions were made in conjunction with the Hau'ula Community Association, Ma'o Organic Farms, the Living Life Foundation, and the North Shore Food Summit on Oahu, the Maui Community Work Day program on Maui and Molokai, and the Kekaha Community Garden, Kauai Seed & Plant Exchange, and the Anahola Prince Kuhio Celebration on Kauai.

The *Plant a Tree of Life* project will significantly contribute to food security and sustainability in Hawai'i as the trees were planted in rural, urban, and community landscapes throughout the state.



Each breadfruit tree was accompanied by a Ma'afala variety fact sheet and an illustrated planting guide. The planting guide is available in English, Hawaiian, Samoan, Chuukese, Tongan, and Tagalog versions.

We are grateful to the Ceres Trust for funding this project to expand breadfruit tree plantings in Hawai'i.

Much of the work of the Breadfruit Institute is supported by grants and contributions. We continue to seek additional funding to accomplish our mission. You can help us in this critical endeavor.

To make a donation, please visit: <http://ntbg.org/breadfruit/donate/plantatree.php>

Breadfruit Festival Takes Root

More than 1,400 people attended the Breadfruit Festival Takes Root on September 18 at NTBG's Southshore Visitors Center on Kauai. The festival is part of the *Ho'oulu ka 'Ulu* project to revitalize breadfruit in Hawai'i.



People came from 16 states, and throughout Hawai'i to celebrate breadfruit. Contingents from the Philippines and Japan came to Kaua'i just for the festival. Presentations,

hands-on cultural activities, cooking demonstrations, headlined by renowned Chef Sam Choy, and delicious breadfruit dishes gave the participants a deeper appreciation of and understanding of breadfruit.

Research & Distribution Update

- Three new varieties from Global Breadfruit were available for the first time in Hawaii at the festival and are now being shipped globally.

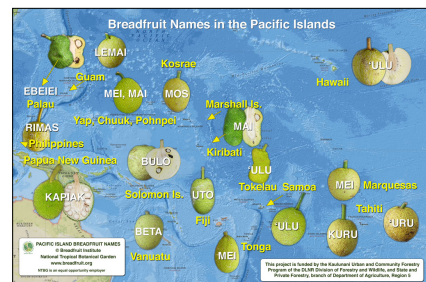


- Ying Liu, a graduate student in Dr. Murch's lab at the University of British Columbia Okanagan, and Dr. Max Jones, a research collaborator at the Gosling Research Institute for Plant Preservation at the University of Guelph, visited Kauai in September to collect propagating material for *in vitro* propagation studies and to work with Dr. Ragone to finalize a production and yield paper based on 5 years of data collection by volunteers from 24 trees in the McBryde Garden.



Breadfruit ('Ulu) and You Curriculum

This curriculum was developed by the Breadfruit Institute to provide educational resources to schools in Hawai'i that are planting Ma'afala trees through the *Plant a Tree of Life* project. The curriculum includes a lesson plan to assist teachers with developing and implementing standards-based curriculum, breadfruit terms in English and Hawaiian, coloring sheets for different parts of the tree, and a poster-size map of the Pacific region with the local names for breadfruit for different islands.



The curriculum was funded by the Kaulunani Urban and Community Forestry Program of DLNR's Division of Forestry and Wildlife.

Breadfruit in the News

Breadfruit and the work of the Breadfruit Institute and collaborators received wide media coverage:

- Science* (the world's leading journal of original scientific research, global news, and commentary). "Botanists Spread the Gospel That Breadfruit Can Be Manna."
- The Huffington Post*. "Breadfruit: The Next Superfood to End World Hunger?"
- Honolulu Star Advertiser*. "Diane Ragone—the horticulturist from Kauai has made it her life's mission to promote the benefits of breadfruit."
- The Garden Island* newspaper. "Breadfruit: The Next Superfood to End World Hunger?"
- CBC Radio. "Breadfruit, the mosquito fighter." Interview with Dr. Susan Murch.
- Fox 5 San Diego TV. "San Diego man fights world hunger with rare fruit." Interview with Josh Schneider.
- WestJet up!* magazine. "Breadfruit: Hawaii's local cuisine-Join Maui's breadfruit revolution."

Follow the Breadfruit Institute on

