

BREADFRUIT INSTITUTE



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Breadfruit Institute Ready to Launch Global Hunger Initiative

The Breadfruit Institute is ready to launch a hunger initiative to respond to critical global food security issues by expanding plantings of good quality breadfruit varieties in tropical regions. The Institute is working with Cultivaris LLC, a company with an international track record in marketing, production, and distribution of plants, combined with a rare sense of social responsibility. In 2008, the Institute asked Cultivaris to develop a commercial system that would enable global distribution of the plants in a way that would substantially improve the low success rate of past efforts. In less than one year Cultivaris developed methods for growing and shipping healthy, vigorous young plants that will mature quickly and easily into productive trees. In fact, it is now possible to produce and distribute hundreds of thousands, even millions, of breadfruit plants, as needed.



A flat of breadfruit plantlets ready for shipment

now makes widespread cultivation and use of breadfruit for food and reforestation feasible. This project can alleviate hunger, provide long-term food security, and enhance the livelihoods of farmers in the tropics.

In June 2009, Cultivaris will launch its Global Breadfruit website and begin marketing two varieties of Samoan breadfruit, Ulu fiti and Ma'afala. More varieties are in the works.

This initiative is truly an international endeavor with team members in Hawaii, Canada, California, and Germany. This exciting partnership between researchers, government, and the private sector

Partnerships

Strategic partnerships are key to realizing breadfruit's global potential. The Breadfruit Institute is working with non-governmental organizations (NGOs) on pilot projects to distribute breadfruit varieties. These include Sustainable Harvest International (Honduras), Trees That Feed (Jamaica), and the ARN Foundation (Haiti). The Institute has joined the Alliance to End Hunger, a coalition of 70 corporations, non-profit organizations, universities, individuals, and religious groups, working together to create real change for hungry people. In addition to the Memorandum of Understanding (MOU) allowing NTBG to distribute three Samoan breadfruit varieties globally, in May 2009, the Government of the Seychelles signed an MOU for two Seychelles varieties.

Problem/Need

There is a global demand for breadfruit. The global food crisis and access to sustainable, nutritious food are major 21st century issues. Over 80% of the world's hungry live in tropical and subtropical regions, including 180 million people in Sub-Saharan Africa and 53 million in Latin America and the Caribbean. Facing soaring food, fuel, and fertilizer costs, farmers in the tropics need sustainable, low input, nutritious crops. Many countries, with a total population of over 2 billion people, have ecological conditions suitable for cultivating breadfruit. Lack of access to good quality breadfruit varieties has been a major impediment to cultivation and use of this crop. Agriculture Departments, NGOs, especially tree planting organizations, farmers and others in close to 40 countries have requested breadfruit varieties from the Breadfruit Institute.

Why Breadfruit?

This 'tree of bread' has the potential to play a significant role in alleviating hunger in the tropics. The nutritious fruit is high in energy and carbohydrates and is a good source of fiber, calcium, copper, iron, magnesium, potassium, thiamine, and niacin. Breadfruit provides food security, contributes to sustainable agriculture and agroforestry, and improves soil conditions and watersheds. The trees are easy to grow in a wide range of ecological conditions and offer bountiful yields. They begin bearing in three to five years and are productive for many decades. Breadfruit tree planting projects will provide valuable environmental benefits and afford an excellent opportunity for carbon credits or offsets, reducing CO₂.

PRODUCT DEVELOPMENT

Food companies have been interested in using breadfruit flour for more than 20 years but have been limited by the number of trees available. Recently, the University of British Columbia Okanagan (UBCO) research team provided flour processed from fruit in the Breadfruit Collection to a major food company for testing in their processing systems. The company developed a loaf of bread with 25% breadfruit flour and will be running additional product trials. This is a very successful proof of concept. These exciting new photos show the results of the first tests. It makes one want to get out the peanut butter & jelly! Breadfruit flour—which is gluten free—has the potential to supplant a portion of wheat used in breads, pastas, and other commercial food products. This will create a market opportunity for farmers to earn much-needed cash from breadfruit.



Bread made with 25% breadfruit flour.

In order for breadfruit to live up to its full potential as one of the world's staple food sources, it is essential to determine the nutrient and starch composition of individual varieties. It is estimated that almost a third of the global population suffers from one or more micronutrient deficiencies. Once identified, varieties with excellent nutrient profiles can be made available for distribution and cultivation. Nutritional data is also key to supporting commercial development of breadfruit as well as its cultivation for subsistence and small-scale production. We are in a perfect position now to conduct the necessary detailed analyses of 100 breadfruit varieties. Facilities are available, and a graduate student and technician at UBCO are ready to do this work—which will be completed in six months—once funding is secured.

In January 2009, a team of agricultural engineering students from the University of St. Thomas in St. Paul, Minnesota, set up a prototype breadfruit processing system at the Breadfruit Institute Field Station at Kahanu Garden for a research project to "Examine Economical Post-harvest Breadfruit Processing Solutions." Their goal was to develop a robust, inexpensive, and efficient village-scale system. To that end, they tested various shredders, solar dryers, and manual grinders to process fresh fruit into flour. Hands-on access to varieties in the Breadfruit Collection gave the students the opportunity to test and ultimately refine their designs. This project was supported by Compatible Technology International, an NGO based in Minnesota that works to improve the lives of people in developing countries by designing food and water technologies that are sustainable and appropriate to local cultures to relieve hunger and poverty. Pilot projects on breadfruit processing will be established in Haiti and elsewhere.