

In this four-part series, Michael McLaughlin of the Trees That Feed Foundation (TTFF) discusses how the organization has helped transform families' lives the world over with the humble breadfruit. In part two, he explains how and why more than 100,000 tree have been planted, in spite of the fact that the fruit doesn't produce fertile seeds.



OK, so breadfruit is nutritious. Fine. But why bother to plant breadfruit trees? As the skeptics early on pointed out, lots of people have breadfruit trees in their back yard. Excess fruit is lying on the ground! We love our breadfruit, but we don't need no stinkin' breadfruit trees!

Well. Jamaica had an estimated two million breadfruit trees at a peak sometime early in the 20th century. But the breadfruit tree propagates slowly in the wild. Breadfruit typically has no seeds, or at least no fertile seeds. The tree propagates slowly, through adventitious shoots.

The local diet shifted more to imported foods, interest in agriculture waned, and the breadfruit was taken for granted. What with neglect and a few hurricanes, the breadfruit tree population declined to an estimated 200,000. Similar stories repeated in other countries throughout the Caribbean and Pacific.

But then the price of imported foods has begun to climb. Jamaica imports over US\$1 billion annually for foodstuff, a large chunk of the Gross Domestic Product of \$14 billion (World Bank and OEC statistics, 2014). This is a huge expense to a developing country with low foreign currency reserves. Haiti imports a similar amount, half the country's total food supply. So why not grow more food locally, especially foods that are nutritious and low cost!

Trees That Feed Foundation came on the Caribbean scene to change this. Mary McLaughlin and I decided to plant lots more fruit trees, especially breadfruit, so the country

could feed itself better. This lovely fruit, being taken for granted, could be the next wonder food. Their goal was to plant a million trees. Each breadfruit tree produces 200 to 300 fruit per year, 800 to 1,000 pounds of nutritious food per year. The lifetime of a tree is 50 to 100 years, perhaps more.

In addition to the food value, each breadfruit tree when mature sequesters over 2 tons of carbon that otherwise would contribute to greenhouse gases in the atmosphere. Last but not least, trees provide wildlife habitat. TTFF is working with a group to plant agroforests in areas used by migrating endangered bird species.

So where can you find a million trees!?! The National Tropical Botanical Gardens, in Hawaii, working with the University of British Columbia and Cultivaris, Inc., developed a tissue culture process. Breadfruit now could be propagated by the thousands, with some of the best varieties, in a matter of weeks. Availability of tree seedlings in bulk made the million tree goal seem reachable.

TTFF began acquiring tissue cultured trees in 2009. The tissue culture process is not a genetic modification, rather it uses growing tissue and a proprietary growing hormone that quickly develops leaf, wood and root structure. The saplings, just a few inches tall, are sturdy and can easily be shipped in quantity.

Not to be outdone, local agronomists in Jamaica and elsewhere have enhanced the traditional means of propagation. Tree nurseries in Trinidad & Tobago propagate thousands of trees annually from stem cuttings. Nurseries in Jamaica and Haiti propagate thousands of trees through a root culture process. Now breadfruit trees can be supplied in quantities of 50,000 per year, or more. As of year end 2016, TTFF has supplied over 120,000 fruit trees, mainly breadfruit but also cashews, mango, ackee, avocado, pomegranate, and others.

Let's take a minute to tell the story of Mr Alfred McLean. TTFF identified him as a local nurseryman, producing various fruit trees for sale. In the initial conversation, Mr McLean asserted that he could produce as many as 300 breadfruit trees annually, by root culture. I enthusiastically agreed to purchase them all, so as to distribute them to farmers and other groups.

That was 2010. Mr McLean has expanded his business. With increasing demand he hired staff, purchased equipment and leased two additional locations for nursery operations. In 2016, TTFF purchased 15,000 tree saplings from him.

This entrepreneur has expanded this part of his business by a multiple of 50 times. Not bad, for creating jobs from breadfruit! Other nurseries in Jamaica and Haiti are coming on stream. That million-tree goal is getting closer!

Trees are being distributed through local agencies and NGOs to individuals for their back yard, to smallholder farmers, to agroforests, and to commercial growers.

TTFF believes these various locations are complementary, mutually beneficial and good for the environment. Individual trees can supplement the diet of a suburban family. These trees create the urban agroforest.



Breadfruit tree pruned for easy reaping

Smallholder farmers, some with landholdings of only an acre or two, can plant dozens of trees, more than enough to feed their families and supply excess fruit for sale in local markets.

TTFF has supplied hundreds of trees to the Swift River Watershed in Jamaica, an extensive agroforest with oversight from Northern Caribbean University, Mandeville, Jamaica. Commercial growers have expressed interest in planting thousands of trees in plantations of hundreds of acres, which will lead to profitable commercialization of a valuable food.

TTFF has created quite a buzz. Local newspapers, radio and television have all feature stories about the rising interest in breadfruit. Two popular songs praise the delicious breadfruit. Roasted breadfruit is on sale at supermarkets and roadside fruit stands. TTFF has held well attended seminars to train and educate, leading to formation of plantations, small businesses, co-ops and other farmers' groups.

Requests arrive daily at Trees That Feed Foundation headquarters, and in almost all cases trees can be donated to support worthwhile efforts. Scan for articles on breadfruit and you'll find increasing interest all over the Pacific and Caribbean. There are no more skeptics!

Trees That Feed Foundation is moving right along, with generous support from their hundreds of donors. In the next article you'll read about several post-harvest products made from breadfruit, how they're produced, and how they're used to feed and nourish schoolchildren, hospital patients, and restaurant goers.

The visit the Trees That Feed Foundation website, [click here](#).

www.freshfruitportal.com