*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 parts **one** and **two** he talked about its history and rising interest in the superfood, and now in part three he explains the huge potential of processed products.*

Breadfruit is a beautiful round fruit, fluorescent green in color, with a slightly rough skin. The local variety in Jamaica is almost perfectly round, about 6 inches in diameter, and weighs about 4 pounds. Of course some fruit are larger, or smaller.

Interestingly, local people strongly prefer large fruit, although actually the smaller fruit oftentimes are more tasty.

Breadfruit is mainly a carbohydrate. Carbohydrate is a generic term, meaning a molecular composition comprising carbon, hydrogen and oxygen. Sugars and starches are carbohydrates. Breadfruit (and potato, and cassava) is starchy. It needs to be cooked before eating.

The heat of the cooking process affects the starch granules and causes them to become more gelatinous and so more digestible.

Roasting, frying, boiling or microwave cooking are different ways to cook the fruit, and each process changes the starch molecules somewhat differently. Most people tend to prefer the fluffier texture of a roasted breadfruit. Fried breadfruit may be a bit chewy; boiled or microwaved fruit may tend to be soggy or mushy.

When starches are eaten, enzymes in the digestive system convert them to sugars, such as glucose, which supply the calories of energy that our bodies need to power our muscles and other systems. You are also getting dietary fiber, which allows the food to move through the

body. And you're also getting a number of vitamins, minerals and other nutrients such as riboflavin, vitamin C, potassium, magnesium, and much more.

Breadfruit even includes protein (up to 7 percent by dry weight, depending on the variety) although NOT gluten. Gluten is the short name for a long-molecule combination protein which gets sticky and gluey as it gelatinizes. Many people, up to 20 percent, are gluten-intolerant to some degree.

Breadfruit doesn't have that. So next time you chew on a delicious slice of breadfruit, think about those processes and the good things that are happening inside you.

There is one slight downside to carbohydrate foods. They contain moisture. As time passes, warmth and the water present begin to gelatinize the starch granules. They become soft and watery.

Then they absorb oxygen and begin to convert themselves into other organic compounds like esters. Molds, yeast and bacteria thrive in this environment. The fancy name for this is rot. Fresh breadfruit, sadly, has a short shelf life, measured in days. In just 3 to 5 days a breadfruit loses its charm.

Fortunately there is a simple, easy remedy. The cooked breadfruit has a much longer shelf life. Even simpler, if the fruit is dehydrated, the lack of water means that the decaying process doesn't start.

Trees That Feed Foundation promotes the drying and preservation of excess fruit, the fruit not needed for immediate consumption. The fresh fruit can be sliced or shredded then dehydrated.

Once dried, the fruit has a shelf life measured in months, or even years. When the time is right, the dehydrated fruit can be rehydrated and cooked into any number of delicious recipes.

Going beyond drying, TTFF is encouraging the production of breadfruit flour. Dried breadfruit shreds or slices are relatively soft, compared to nuts and grains, and can easily be milled into a fine flour. The flour retains all the nutrition of the fresh fruit (minus the water, of course) and is very versatile.

Making breadfruit flour is easy. The fruit is picked and turned upside down, so most of the latex drains out. Ideally it is kept in cold water until the next stage. Next stage is to peel the fruit, carve out the tough core, and cut into chunks. The chunks are shredded in a food processor. The shreds are dried, either using electricity, gas or solar heat.

TTFF designed a hybrid dryer using solar heat, if the sun is out, or with a gas burner if it's not. After drying, the shreds can be stored indefinitely until it's time to grind into flour. Different mills cost different prices depending on the capacity. The finely ground flour is packaged and distributed, the perfect ingredient for countless recipes.

Visit our website, to see several ways to use the flour. One of our favorite treats is the pizelle, which is similar to a thin waffle.

Have it with something either savory or sweet. Breadfruit flour would make the most

delicious ice cream cones. Other recipes include pancakes, flatbreads, cakes and breads (when blended with wheat flour) and last but not least, porridge.

Breadfruit flour, blended with other vegan products like cornmeal, coconut milk powder and spices, makes a delicious and nutritious hot cereal.

TTFF has actually developed a program to assist schools in underserved areas with breadfruit porridge. Already over 25 schools and orphanages in Jamaica and Haiti are receiving regular shipments of an instant breadfruit porridge mix. The kids lick the bowl clean and come back for more.

This school program alone would make Trees That Feed Foundation a huge success. Other benefits of the program include the jobs that people gain from manufacturing, delivering and serving the porridge, not to mention the nutritional benefits to the schoolchildren.

In fact schoolchildren are among the most vulnerable people in underdeveloped countries. They are totally dependent on parents and other adults for their shelter, nutrition and education. This is the center of the target for Trees That Feed Foundation.

Not only do we provide the porridge (sometimes that's the only hot meal of the day for these kids!) but now we're educating them. TTFF developed a coloring book in both English and Haitian Creole, for the kids to color and learn. The title? Plant a Tree and Good Things Happen! Look for the book on Amazon and our website.

In our fourth and final article we'll tell a few stories of some successful entrepreneurs. You'll see that breadfruit is not only delicious and nutritious, but also is economically successful in the marketplace.

www.freshfruitportal.com