

Hardier cassava offers promise for hungry Africa

November 1 2012, by Jon Gambrell



In this photo taken Wednesday, Oct. 3, 2012. Shakirat Ajayi, sorts out cassava plants in a storage room at the International Institutes For Tropical Agriculture in Ibadan, Nigeria. From fields nestled among the lush rolling hills of Nigeria's southwest, the small plants rising out the hard red dirt appear fragile, easily crushed by weather or chance. Looks, however, are deceiving. These cassava plants will grow into a dense thicket of hard, bamboo-like shoots within a year, with roots so massive a single planted hectare can provide three tons of food. The plants survive fires, droughts and pestilence, while offering a vital food source for more than 500 million people living across sub-Saharan Africa. (AP Photo/Sunday Alamba)

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It is in these lowly tubers, scientists at the International Institute for Tropical Agriculture say, that the continent will find a way to feed itself no matter what.

"Come war, come anything, the farmer who has cassava has food," said Richardson Okechukwu, the institute's coordinator for cassava research.

In Nigeria, a nation where dinner tables often see a pounded cassava product called eba eaten by hand with soups and dishes, the plant remains a vital food in the country. Recently, it has even become a political prop by the nation's president. Scientists at the institute and others fighting hunger hope that efforts to make cassava heartier and more nutritious will help feed a continent where famine and scarcity still plague nations.

To the uninitiated, the cassava looks more like a misshapen log or tree branch. The plants themselves are not indigenous to Africa, instead brought over from South America in the 1600s by the Portuguese. Those preparing it cut the skin off, then squeeze out the water within the root before frying it to make garri. Most Nigerians eat it by peeling the starchy soft material from a ball and dipping it into different sauces that

accompany fish or meat.

Cassava also can be ground into flour. In other parts of Africa, people consider the leaves of a cassava plant as a delicacy, eating it in a soup or frying it.



In this photo taken Tuesday, Oct. 2, 2012. Richardson Okechukwu, a scientist who study cassava speaks to Associated Press in a Cassava farm , " Come war, Come anything, the farmer who has cassava has food" at the International Institutes For Tropical Agriculture, in Ibadan, Nigeria. From this field nestled among the lush rolling hills of Nigeria's southwest, the small plants rising out the hard red dirt appear fragile, easily crushed by weather or chance. Looks, however, are deceiving. These cassava plants will grow into a dense thicket of hard, bamboo-like shoots within a year, with roots so massive a single planted hectare can provide three tons of food. The plants survive fires, droughts and pestilence, while offering a vital food source for more than 500 million people living across sub-Saharan Africa. (AP Photo/Sunday Alamba)

Nigeria is the world's top cassava producer, according to the Food and Agriculture Organization of the United Nations, with Brazil and Thailand behind it. The plant thrives in this West African nation, often without needing too much help from farmers, which makes it valuable in a country where most still do agriculture by hand, rather than with machines.

While the plant flourishes now, changing weather patterns across Africa make it important to have a stronger cassava available for farmers, said Robert Asiedu, the director for West Africa at the International Institute for [Tropical Agriculture](#).

"Although cassava has helped us so many years, we can no longer take it for granted," Asiedu said. "We need to make it even more hardy as the dry periods are getting longer and the soil fertility is declining.

"If we really damage the environment to the extent that cassava can't grow ... you can forget about" other plants, he said.



In this photo taken Tuesday, Oct. 2, 2012 foods produced from cassava are display at the International Institutes For Tropical Agriculture in Ibadan, Nigeria. From fields nestled among the lush rolling hills of Nigeria's southwest, the small plants rising out the hard red dirt appear fragile, easily crushed by weather or chance. Looks, however, are deceiving. These cassava plants will grow into a dense thicket of hard, bamboo-like shoots within a year, with roots so massive a single planted hectare can provide three tons of food. The plants survive fires, droughts and pestilence, while offering a vital food source for more than 500 million people living across sub-Saharan Africa. (AP Photo/Sunday Alamba)

With that in mind, scientists continue to study the plant at the institute, located on a preserve just north of the city of Ibadan. Its laboratories contain varieties of cassava growing in test tubes. Giant freezers there hold seeds dating back more than three decades, though most scientists work with cuttings of the cassava, as seeds can have different genetic attributes.

There have been successes, adding vitamins and making some more drought-resistant. Scientists even bred a cassava plant whose inner tissue is yellow, a color favored by Nigerians who enjoy it with a splash of palm oil, which makes the food spoil quicker when stored.

Experiments continue at a kitchen at the institute, where chefs bake using a combination of regular flour and 40 percent of "cassava flour." Loaves of white bread baked with cassava taste like wheat bread, while the sweet taste of the more exotic "ginger orange raisin muffin" masks the flavor.

Every week, the kitchen bakes a batch of cassava bread that is taken to Nigeria's capital, Abuja, and put on the tables of Aso Rock, the nation's

presidential villa. There, President Goodluck Jonathan made a stir last year when he held up a loaf and promised to eat only cassava bread while in office. He also ate some on national television and handed it out to his ministers, some of whom looked warily at it.

"For us as a nation, for us to move forward, we must also tame our exotic tastes," Jonathan said at the time. "Some of the things from outside are not even as good as the things we have inside."



In this photo taken Tuesday, Oct. 2, 2012. A man work inside a Laboratory on cassava at the International Institutes For Tropical Agriculture in Ibadan, Nigeria. From this field nestled among the lush rolling hills of Nigeria's southwest, the small plants rising out the hard red dirt appear fragile, easily crushed by weather or chance. Looks, however, are deceiving. These cassava plants will grow into a dense thicket of hard, bamboo-like shoots within a year, with roots so massive a single planted hectare can provide three tons of food. The plants survive fires, droughts and pestilence, while offering a vital food source for more than 500 million people living across sub-Saharan Africa. (AP

Photo/Sunday Alamba)

Critics on social media and elsewhere flayed Jonathan, likening his cassava bread endorsement as Nigeria faced strikes and unrest to Marie Antoinette's out-of-touch musings about cake prior to the French Revolution. Jonathan's push for cassava flour could benefit the country, but it comes after a similar and failed attempt by former President Olusegun Obasanjo to do them same.

But cassava can be used beyond the kitchen. Scraps of cassava feed farm animals in Nigeria, while Thailand produces chips and feed from whole cassava roots for animals. In industrial settings, cassava can be used to make starch, sweeteners and medical glucose for diabetics.

Those other uses for cassava give scientists at the institute hope that their improved cassava plants will be able to help people both feed themselves and make a profit in Nigeria where most earn less than \$2 a day. However, they say that the feeding those living in the country must remain the first priority.

"Because it's eaten in such large quantities, any big change that we can bring about in the nutritional quality is a big" gain, Asiedu said. "You need to diversify your diet—have meat and fish and all—but we know these are expensive. So for the average person, any mineral or nutritional element we can put in [cassava](#) is big improvement."

More information: The International Institute for Tropical Agriculture: www.iita.org

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