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Too Few Americans Are Eating a Remarkable Fruit

Breadfruit is a staple in tropical places—and climate change is pushing its range north.

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Someplace in the lush backroads of San Sebastián, in western Puerto Rico, my friend Carina pulled the car over. At a crest in the road stood a breadfruit tree, full of basketball-size, lime-green fruits, knobbled and prehistoric, like a dinosaur egg covered in ostrich leather. One had recently fallen. I jumped out to scoop it up, thinking about the breadfruit tostones we would make that afternoon. We'd fry chunks of the white, spongy flesh, then smash them with the back of a cast-iron pan, then fry them again. In a wooden *pilón*, Carina would pound garlic and oil with oregano brujo, a pungent weedy plant in the mint family, and spoon the sauce over the frittered discs. For me, little in this world is above a breadfruit tostón, crisp and flaky on the outside, creamy on the inside. My mouth is watering writing this paragraph.

In Puerto Rico, the word for breadfruit is *panapén*, almost always shortened to *pana*, which is also the word for your close friend, your crew, your people. Breadfruit trees feel like kin there: They are everywhere, their huge lobed leaves splayed over roads and porches like the hands of a benevolent giant.

Finding a roadside breadfruit tree is like spending a moment in Eden. Our human effort is irrelevant; these trees, remarkable growers and givers, will simply provide. A three-year-old tree can reach 20 feet high. They start making fruit years faster than other tropical fruit trees, such as mango, and can produce 400 pounds or more in a year with little to no human intervention. That fruit is more calorie- and calcium-dense than a potato, to which its starchy flesh is often compared. It can be steamed, roasted, or fried, or dehydrated into a useful flour. If allowed to ripen past its hard stage, a breadfruit's flesh softens into a sweet custard that can be a base for desserts. As a grower in the Florida Keys, Patrick Garvey, put it to me: "One tree feeds a family of four for a lifetime." Or at least 50 years, per researchers' findings. And thanks to climate change, this fruit may soon be coming to the southern United States in a major way for the first time.

For as long as humans have been around to watch it, this species has been confined to the tropical band hugging the middle of the planet. Breadfruit trees like it hot and can't stand cold—a couple of days of 40-degree temperatures would kill one, Garvey said. They also love the rain, the way it can only rain in the tropics, 60 to 120 inches a year. But under climate change, its range is set to grow considerably. There are signs that this is already happening: Up until recently, the Florida Keys were the one place in the continental United States where breadfruit readily grew and fruited. Yet according to research from the Coastal Carolina University geographer Russell Fielding, the University of Miami's Gifford Arboretum now has a fruiting tree, and many of the 14 trees at the National Tropical Botanical Garden in Miami have recently borne fruit, too.

Fielding and his co-author Jorge Julian Zaldivar surveyed 43 Florida-based breadfruit growers. Some had as few as one tree. Still, each was a remarkable living symbol of a changing world. Although climate change remains overwhelmingly a destructive phenomenon, they note, the expanding range of the breadfruit is one small silver lining. "There's not really a climate that is too hot for breadfruit," he says. Normally, with climate trends, whenever you gain a new range for a species, you also lose it elsewhere. "But with breadfruit you're gaining, not losing."

Maps from a 2020 study show breadfruit dramatically expanding its range through the southern U.S., if climate change is allowed to proceed more or less unmitigated. Most scientists agree that the world is no longer on the worst-case trajectory for warming, though, and Fielding makes a more modest prediction for breadfruit's immediate future: a steady northward push through parts of Florida in his lifetime. Florida does still get an occasional cold snap. "It kills the oranges, it kills the strawberries, and it would probably kill the breadfruit. But that puts it in line with other Florida crops," he says. Breadfruit might just be another commodity tossed about by freak bad weather, at least until the cold spells vanish too.

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One barrier to breadfruit becoming a staple crop in more of the U.S. is how quickly it spoils. Breadfruit is best two to three days after harvesting, before it begins to soften into its custard phase. But researchers in Hawaii are testing various varieties for their ability to withstand different environmental conditions. It's likely that fewer than 10 breadfruit varieties have ever been tried in the mainland U.S., Fielding points out, despite hundreds of them existing in the tropical islands of the Pacific. It will take some research, but a breadfruit revolution in this country is possible.

Originally spread east from New Guinea throughout the Pacific islands by voyaging people, breadfruit has a place in Pacific diets, including in Hawaii. It is also eaten across the Caribbean, where it was transported by European colonists in the 1700s to feed enslaved people working on those islands. Jamaicans eat it, Barbadians eat it, Puerto Ricans eat it, and Dominicans export it. Experts tell me the Dominican Republic is likely where the breadfruit that occasionally shows up in the markets in my Carribean neighborhood in New York City comes from. Breadfruit also grows in India, where it's been introduced, and tropical parts of the African continent.

Despite its popularity, breadfruit is still considered a dramatically underutilized crop, says Julia Vieira da Cunha Ávila, a tropical-crop-diversity scientist at the Breadfruit Institute in Hawaii, which is dedicated to promoting the fruit and maintaining a living portfolio of its many species. Organizations, including the Trees that Feed Foundation, have taken it upon themselves to support smallholder farms trying to make a way for breadfruit. Still, for all its wonders, too few people are eating it. Ávila is from Brazil, where the breadfruit also grows but has yet to catch on with the general public. She likes to blend overripe breadfruit into her acai bowls to give them a smooth texture. "Normally you would use a banana," she says, but a soft, over-ripened breadfruit is perfect for the task. She also eats chunks of steamed breadfruit with her breakfast, instead of a slice of bread.

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Garvey, the Florida grower, owns and operates Grimal Grove, the first and largest commercial breadfruit grove in the continental U.S. He started growing the trees in earnest after Hurricane Irma in 2017 sent brutalizing winds and three feet of salt water sloshing over his land. Every fruit tree he'd planted was destroyed—except for his one breadfruit tree. Its limbs were torn in the wind, but within 18 months, the young tree was sprouting new shoots. That resilience struck him. This was a hardy tree, unafraid of a little salt water. In a climate-addled South Florida, that was not just an asset but a necessity. He now has 33 breadfruit trees in the ground and a couple hundred more in pots.

I asked him what he thought about the new phenomenon of breadfruits growing farther north in Florida. "I'd rather be the only breadfruit grove in the continental United States ever, and not have climate change," he said. But he's a breadfruit evangelist, and more breadfruit enterprises mean more people who know about the unusual fruit, which can only be to his benefit too. He sells fresh breadfruit in the summer, and has partnered with a distillery to make vodka out of overripe specimens. When breadfruit fall, he harvests them to make pickled breadfruit spears. "It's a little like a pickled artichoke. We have a dill-and-garlic one and a spicy-jalepeño one. People really love it. And the nice thing is we're not wasting it," he says. He also makes a mean breadfruit-macadamia nut cake, something he first tried to impress a love interest. "Didn't get the girl," he told me. "But I got a great recipe." I'm not sure how it would stack up to those tostones, but I'd be willing to give it a try.

Zoë Schlanger is a staff writer at *The Atlantic*.