As the planet warms, unusual crops could become climate saviors - if we're willing to eat them

In southern Israel's stifling heat, rows of salicornia, commonly known as sea asparagus or sea beans, grow under translucent tarps, planted into ground more sand than soil, irrigated with saltwater. This environment would kill most plants, but these segmented succulents look beautiful — green and healthy. In partnership with researchers at Ben Gurion University of the Negev, local farmers are exporting them to markets in nearby countries. Sea beans taste like salty cucumber and grow wild in coastal areas around the globe. But in recent years researchers have begun to focus on them for agriculture, especially in dry coastal regions such as India, Israel, Turkey and the United Arab Emirates. These researchers’ efforts are defining what extremes the plant can withstand, its nutrient needs and how to get it to grow faster and with greater yield. As the planet warms and the seas rise, resilient crops such as sea beans might become climate saviors. But only if we are willing to eat them.

Everybody matters

Climate change is already affecting our food supply. In a paper published this year, researchers calculated that the available calories from the world’s top 10 food crops were 1 percent less annually than they would have been without the impact of climate change. Surveys show the potential for drought tops people’s climate concerns worldwide, but when it comes to growing crops, says Hope Michelson, an assistant professor of agriculture and consumer economics at University of Illinois at Urbana-Champaign, “it’s not just the amount of rain” that matters. Crops are also sensitive to variations in how quickly that rain falls, high and low temperature extremes, the frequency and intensity of storms and the length and timing of growing periods.

Food crops that can withstand such conditions will be increasingly important, and much discussion around climate-friendly food focuses on consumer choices and what they mean for broader adoption of these crops. Essentially, there has to be a market for climate-resilient foods to have a significant impact. Consumers can vote with purchasing dollars to support farmers who grow foods that will persist in difficult conditions, and those that require fewer resources. But outside factors, the food and beverage industries among them, exert influence over our choices. While data on adults is mixed, research shows that food marketing strongly influences children. A 2009 article in the Annual Review of Public Health found evidence “that television food advertising increases children’s preferences for the foods advertised and their requests to parents for those foods.” A more recent look at the data in The American Journal of Clinical Nutrition concluded, "Evidence to date shows that acute exposure to food advertising increases food intake in children but not in adults."

Federal, state and local governments shape our eating habits, too, through tax initiatives, zoning laws, food assistance programs, school lunch nutrition standards, research funding and more. Government policy, Michelson says, is very influential “with respect to agriculture and what people are growing and where they’re growing it.” Eli Wheat, a farmer and lecturer at the University of Washington’s Program on the Environment, also sees the outsized influence the government has on food production and choice. "The federal government is so deeply engaged in subsidizing food production in our nation that it basically is not allowing free market forces to act," Read More