Technology

Although breadfruit has been cultivated by mankind for more than 3,500 years, previous attempts at propagating the trees on a commercial scale have been unsuccessful.

Many of the best varieties, selected over thousands of years on Pacific islands underwent a naturally occurring mutation, becoming sterile and therefore seedless. The seeded varieties do not produce seedlings identical to their parents, because they are products of sexual reproduction, making the ability to reproduce the same superior variety from seed propagation impossible. Trees grown from seeds can take more than nine years to produce fruit, if they fruit at all.

Traditionally the only method of breadfruit propagation was through scarring a surface root and waiting for a sucker (young tree) to emerge. Once it reached a large enough size (1-2 years), the sucker was severed from the parent tree and replanted. This new young plant might take 5-7 years to begin producing fruit. The success rate in this method of propagation varies widely and the potential to transmit and spread harmful soil-based pathogens is very high.

This means that the establishment of large populations of commercially-viable trees was nearly impossible until the development of a protocol for the propagation of clean and pathogen-free plants through micropropagation, or tissue culture.

Cultivaris North America, through our Global Breadfruit division, has joined forces with the National Tropical Botanical Garden’s Breadfruit Institute in Hawaii (BFI). The Institute holds the world’s largest collection of breadfruit varieties and has been the epicenter of research into this amazing plant for more than 20 years. Scientists at the BFI and the University of British Columbia had been previously

working for several years to develop techniques to preserve the important collection *in vitro*. The collaboration with Cultivaris North America allowed our team access to proprietary information about breadfruit propagation in tissue culture, and after more than three years of research in Cultivaris labs, we were able to develop a reliable technique for the mass propagation of several of the best varieties.

Not only does our proprietary propagation method allow for large-scale propagation and production of uniform, vigorous breadfruit plantlets, free of nematode infestation and indexed for latent bacteria and virus, but our varieties also boast an enhanced rate of survival and produce superior fruit in nearly a third of the time that conventionally propagated plants require.