‘Last and only hope’: With global banana crop under siege from fungal disease, CRISPR may be only remaining solution

The banana as we know it is in trouble. Emerging reports suggest the fruit’s deadliest disease has been spotted in Peru and Venezuela, two of the world’s largest exporters of bananas. Following Colombia’s confirmed infections in 2019, it appears the disease is spreading through Latin America, and biosecurity measures meant to contain the pathogen have been unsuccessful.

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Because the disease is often undetectable for up to two years, it is likely that TR4 exists in Latin America beyond Peru, Venezuela, and Colombia, waiting to be recognized and already steadily spreading.

Good news came at the end of February, when Australian researchers announced a new banana genetically modified to be resistant to TR4. The team managed to insert the gene that makes one of the wild banana varieties resistant into a commercial banana, and the researchers are now hoping to continue to boost the new banana’s immunity using CRISPR. But how did the industry come to think of GM as its last and only hope?

Bananas are far from our only monocrop. Many of the world’s staples rest precariously upon just a handful of varieties. And while genetic modification promises us another tool to fight pathogens, it’s worth reflecting on just how reactive this process is.

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