

Saving the banana

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Chinese banana plantation severely affected by *Fusarium* wilt – or Panama disease – caused by *Fusarium* TR4.



There's little evidence of the problem in Western supermarkets, where the shelves are still well stocked with bananas. But it's only a matter of time before the effects of two devastating fungal diseases in banana cultivation are felt here too. Unless someone can come up with a solution soon...

The banana is having a hard time. Plantations are being affected worldwide. To start with, there is the notorious wilt or Panama disease, which is caused by several *Fusarium* species. A new, more virulent variant emerged in Asia in the 1960s: Tropical Race 4, or TR4. Despite frantic attempts to keep it in check, efforts to stop it spreading to plantations in Africa have been unsuccessful. This TR4

variant has also recently been found in South America. A major problem is that at least half of the total banana acreage consists of susceptible Cavendish bananas destined for export. It's easy for a disease to spread in such a global monoculture. Entire plantations are being destroyed, and the soil remains unsuitable for growing bananas for many decades. And yet bananas are the main source of food for more than 400 million people in the tropics. As if that were not enough, the banana is also suffering from a leaf-spot disease with the ominous-sounding name of Black Sigatoka, caused by the fungus *Mycosphaerella fijiensis*. To get healthy bananas onto supermarket

shelves, plantations can be sprayed with crop protection products anywhere between 25 and 70 times a year. But the fungus that causes Black Sigatoka is becoming increasingly resistant to these chemicals. Continuing to use these expensive, polluting compounds is therefore not an option. In response to this, researchers are working on developing resistant banana varieties using wild relatives with genes that make the plant resistant to these pathogens. So there is still hope that we can save the banana.