

## Yes, we'll have no bananas?

By **Nick Kelley** / Special To The Tab

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Are we going to live in a world without bananas? Australia is facing that question right now.

In March 2006, Cyclone Larry destroyed 80 percent of Australia's banana plants, and it will take several years for the plants to be able to produce bananas again.

Unfortunately, damaged plants are also more susceptible to disease. The price of bananas has skyrocketed, and a previously inexpensive fruit has become a luxury.

Bananas that sold for \$2/pound earlier this year now cost more than \$7/pound.

Thieves are breaking into banana plantations and running off with bushels of them.

When a friend from Sydney came to visit me recently, he was desperate for a banana.

Currently Australia is considering importing bananas while their own plantations recover. Farmers fear that the entire Australian banana crop could be wiped out by the Panama disease (found in SE Asia), to which native plants have not yet been exposed. Farmers also fear that Australians will switch their eating preferences away from bananas and will not switch back when the local crop recovers. Although Australian bananas' are expected to re-grow, there is concern that increased cyclone activity could further damage the industry and make it unprofitable.

Technically, Australia allows importation of bananas. But because the government enforces a lengthy quarantine, this effectively prevents their importation. While some are pushing to shorten the quarantine period, to allow the importation of Philippine bananas, the banana growers of Australia are resisting. Australia will remain in a banana shortage for some time and Australian's are braced for the potential of life without bananas.

Bananas have long been a dietary staple in many countries, including the US. It is the most popular fruit in the world and the fourth largest agricultural crop, behind rice, wheat and maize. Besides great taste, bananas have outstanding nutritional value. An excellent natural source of potassium, bananas are also an ideal fruit for athletes, combining three natural sugars, providing both instant and sustained energy.

Wild Bananas, which are much smaller than the bananas we usually see in grocery stores, originated in SE Asia and have been domesticated for thousands of years (perhaps as far back as 8,000 BCE). The Portuguese established banana plantations in the Caribbean and imported the fruit back to Europe.

Cultivated bananas are sterile, which means they have no viable seeds, so old plants must be spliced to create new ones. That means taking one plant and creating a clone of it by placing a shoot in the ground and allowing it to grow. This creates a monoculture of genetically-identical bananas. Today banana production occurs in most tropical countries and the banana is perhaps the world's largest monoculture

crop. The lack of genetic variability makes them vulnerable to being wiped out abruptly; an entire crop is at risk of crashing when a pathogen is introduced.

The Cavendish, found all over the world, is the species everyone has come to know and love. If Cavendish bananas are wiped out by a pathogen, it will not be the first time an entire species of banana has been obliterated. The Gros Michel accounted for virtually all sales of bananas until the 1920s and 1930s, when a major outbreak of Panama disease decimated the world banana crop. Growers were able to meet demand by drastically increasing the amount of land under cultivation, so even with enormous losses to disease, banana export continued. When growers went bankrupt, they shifted to a banana species with natural resistance to Panama disease. However, those Cavendish bananas remained genetically unchanged, while the Panama fungus mutated, thus ending the Cavendish's immunity to the disease.

How can the future of bananas be secured? Growers are willing to switch to another species, but they want the taste and appearance of the new strain to be similar to the Cavendish, so that it will be readily accepted on the world market. A rare banana seed has been found in Honduras and growers are attempting to breed a strain of bananas resistant to disease. This species has not done well in the marketplace because it has an apple-like after taste. Industry is taking a different approach. Large chemical companies are seeking ways to make banana plants more resistant to the Panama disease by genetically altering the banana plants directly, using gene-splicing. It remains to be seen which approach, conventional breeding or genetic engineering, will be more successful at resolving the banana crisis.

Given the recent near demise of the banana in Australia, we should be asking if other crops are vulnerable to a similar fate. Droughts, floods and other natural disasters will continue to devastate the land. This summer, heat waves destroyed crops and livestock on a wide scale here in the US. The banana scare could be a preview of things to come..

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