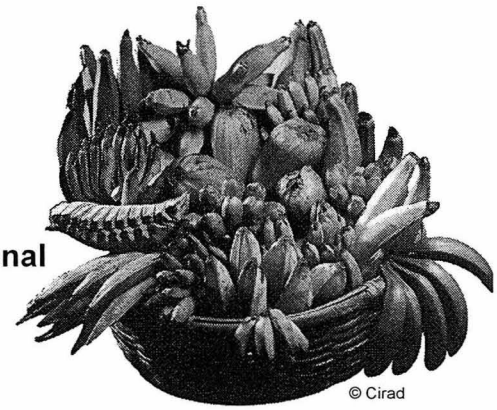
A fine future for bananas

Announced in every possible way by the international media, the disappearance of bananas within a decade will not take place.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The announcement of the disappearance of banana from the surface of the world in the British journal *The New Scientist*, then taken up by the media, caused alarm among consumers and in the international banana microcosm (producers, trade operators, researchers, etc.). Threatened by numerous pests and diseases (Sigatoka or black leaf streak disease, banana borers, nematodes, Panama disease, etc.), banana might well disappear within 10 years, according to these sources. Genetic engineering to breed genetically modified resistant varieties would then be the last chance.

CIRAD, through its Fruit and Horticultural Crops Department (CIRAD-FLHOR), is internationally one of the most important public bodies working in research on banana growing and would like to focus on some of the affirmations published. According to our researchers, bananas will continue to flower throughout the tropics and bananas will remain one of the most commonly eaten fruits in the world! However, a substantial research effort is necessary to improve the plant in the light of its importance as a food crop and as an export crop.

Bananas will not disappear

The affirmations of the disappearance of the Cavendish variety are excessive. Dominant in international trade with 12 to 14 million tonnes per year, it forms only 13% of world banana production (95 million tonnes). Fortunately, the banana universe is not limited to Cavendish alone and hundreds of other varieties are grown around the world. Cooking types (plantain and other cooking bananas) form a large proportion of the diet in many tropical zones. No less than 1 200 banana varieties have been identified, some of which are naturally resistant to pests or diseases. Genetic diversity is therefore not endangered.

Genetic engineering is not the only solution

Obtaining varieties resistant to one disease or another using genetic transformation is only one pathway among others for improving banana. Several teams around the world, including that at CIRAD, are working on the improvement of bananas using so-called 'conventional' methods based on crosses using disease-resistant wild bananas. It is true that there are too few of these teams in the face of the importance of the issue. They have nevertheless already bred new varieties for local consumption in producer countries in the south. Other varieties for the large export markets are at an advanced stage of experimentation. Furthermore, responding to the pest threat faced by bananas requires not only new, more resistant banana varieties but also good cultural practices based on in-depth knowledge of the agronomy of the plant and the biology of the pests and diseases concerned. Research in these areas has less media coverage but is just as necessary as that on genetic transformation. It gives concrete results. Growers in the West Indies and West Africa control plant health risks by means of rational pest and disease management (less use of pesticides) and, for example, by incorporating fallows in the cropping systems ■

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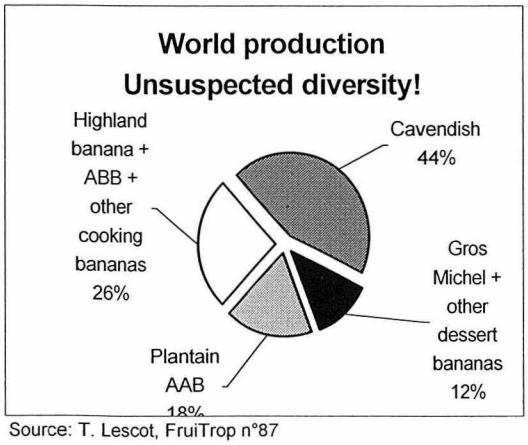
Banana — Broad diversity currently observed

	Number of accessions	Ploidy	Description
Wild bananas	180	Diploid	Weed-bearing bananas enabling crosses to improve present cultivars.
Cultivars	650	Triploid	Cultivated bananas. These include Cavendish, other dessert bananas, plantains, cooking bananas, beer bananas, etc.
	290	Diploid	
Hybrids	80	Tetraploid	Bananas produced by conventional breeding methods: crosses bred by FHIA (Honduras), CIRAD (France), CARBAP (Cameroon), IITA (Nigeria), etc.

Source: Cirad-flhor



Source: T. Lescot, FruiTrop n°87