

SESSION 2

BREEDING AND CROP IMPROVEMENT

BANANA BREEDING STRATEGIES AND THE RECENT PROGRESS IN CHINA

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ABSTRACT

Banana industry is one of the most important part of the agribusiness in South China, which is a major source of income and employment in the rural areas. Diseases, pests, tropical storms or typhoon, and chilling injury, are the main constrains to China's banana industry. The highly virulent new race of *Foc*, known as tropical race 4 (TR4), is devastating Cavendish bananas, not only in China, but also in worldwide. Therefore, breeding varieties with high resistance to *Foc* TR4 is a very effective way to control such notorious disease, and without a doubt it is the key breeding objective in China's banana breeding program. In the presentation, we will address the main strategies regarding conventional crossing, induced mutation, chromosome doubling, and molecular techniques as well. Host Induced Gene Silencing (HIGS) system and CRISPR/Cas9 mediated gene editing technology, which were developed recently, will be presented also. The outcomes of the varieties which have been released in China's commercial market, will be introduced.

Keywords: *Musa* spp., breeding, *Fusarium oxysporum* f. sp. *cubense* tropical race 4 (*Foc* TR4), resistance varieties