

Black Sigatoka disease has been wreaking havoc on banana plantations for more than two decades, but an Ecuadorian research project has identified a sequence of genes resistant to the disease. 

The findings could help stem the tide of small farmers converting their banana plantations to cacao farms. Ecuador's Biotechnology Research Center (CIBE) specialist Dr Efren Santos, spoke to [www.freshfruitportal.com](http://www.freshfruitportal.com) about the project's progress.

"As a result we have a protocol developed for the genetic transformation of bananas. We obtained a library of genes expressed in the 'Musa Calcutta-4' variety that has a natural resistance to Black Sigatoka," the expert said.

"We also developed embryogenic cell suspensions necessary for genetic transformation in banana and plantain cultivars 'Williams', 'Orito', 'Barrangete' and 'Dominico'."

Although funding for the project finished at the end of last year, CIBE is pursuing other forms of financing to continue research and post-field analysis.

"To obtain banana and plantains resistant to Black Sigatoka we need funding to conduct research and to do field analysis. It is important that the state continues funding this type of research to reach the planned end."

### **Project Benefits**

Dr Santos said the main benefit of Black Sigatoka resistant plants is to prevent the widespread use of fungicides, which would help to reduce production costs and environmental pollution.

Similarly, plantation laborers and people living nearby would face a lower risk of agrochemical poisoning.

"In addition, after conducting necessary tests and analysis in the field, it's possible that plantation performance would increase, and that would be very beneficial to the industry and Ecuadorian producers."

Dr Santos said genetic engineering can also help develop plant resistance to pests, improve fruit quality and create tolerance to low temperatures and droughts.

Black Sigatoka disease attacks the banana leaves affecting the growth and productivity of the plant. Ecuadorian Agriculture Ministry records show the disease has been present in the

country since 1989.

According to local media reports the disease has affected 30% of the Ecuador's banana production this year.

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