

The Colombian Agricultural Institute (ICA) registered the elimination of 731 hectares of plantain and banana farms in 2011 and 2012, as part of an eradication program to stop bacterial wilt Moko disease in its tracks. ICA plans to continue these efforts in 2013, but emphasizes exports are unlikely to be affected significantly. The country's top banana shippers have the problem under control, however they could bear cost hikes if locally oriented farmers don't take appropriate mitigation measures.



The problem of Moko disease is "technically resolved" in the eyes of John Jairo Mira Castillo, who heads up the Colombian Banana Growers Union's (AUGURA) Center for Banana Research (Cenibanano).

"That's because firstly, we know how to prevent its arrival on farms and secondly, how to eradicate the the disease if it's detected," he tells www.freshfruitportal.com.

"We have a lot of farms here in the zone of Uraba where I am - and in the zone of Santa Marta in the Caribbean - with very serious Moko problems, but if you follow the letters of the instructions we have, the disease is eradicated and there isn't any problem.

"However, Moko is a serious threat for banana growers because in farms where it arrives, its eradication implies that you will have at least six months without a crop, and at least 14 months without production, so from an economic and production point of view it's very serious."

If detected, ICA has advised growers to apply a systematic herbicide called Glyphosate.

"It is injected into the plant and kills it so the bacteria doesn't have any food and it dies," says the institute's banana and plantain leader Yaneth Jimenez.

 "We set up a red zone which covers five meters in diameter around the site where plants have been killed, and we restrict movement to those areas from people to avoid them coming into contact with the bacteria, whether it be through their shoes or tools.

"After the red zone there is another 10 meters in diameter for the yellow zone, which is an observation zone. Secondary outbreaks are possible, so the yellow zone has to be monitored, and we have to keep out the entry of animals too like dogs or chickens."

Disease development and impacts

Jimenez says the disease has been in Colombia for around 25 years now, however floods at the end of 2010 and throughout 2011 helped the bacteria disperse to new areas.

"It started in the Tolima department but now we have it in all the 22 banana and plantain-producing department in the country," she tells www.freshfruitportal.com.

"It is a problem anywhere you have musaceae, whether it's bananas or plantains, and that includes the coffee-growing regions where growers have diversified their production."

Jairo says the last Moko inventory conducted in Colombia showed 30% of banana farms had at least one focus point of Moko. Even though that percentage would have declined in the following years as rigorous eradication moves were underway, the Cenibanano director believes the 2011 floods would have brought the percentage back to the same level.

"The impact hasn't been significant for exports though. We have more or less had the same fruit export levels in the last 10-15, and reductions in production have been more associated with climatic effects," he says.

"In the case of bananas, when a farmer finds a case of Moko, they do the treatment very quickly so normally these focus points don't have any more than five or six plants in the majority of cases." 

Negative externalities

Jimenez echoes Jairo's comments that the export sector has Moko disease under control.

"In exporting regions growers are very conscious about eradication. We have 47,000 hectares of export bananas, and on these plantations there is more vigor and better management. There is a culture that recognizes the importance of the issue, so management is good and there isn't really a problem. Black Sigatoka is more of an issue there.

She says the problem is the Moko outbreak is most serious in the department of Quindio, where there is a total musaceae area of 35,000 hectares.

"That's where all the seeds are for propagation and it's also where the disease has shown the most effects.

"Seeds are a big issue. People are taking seeds to other parts of the country, so to try and stop this we have a training and education program where we are letting people know how much money you can lose from a Moko infection - hopefully when they think about their pockets they will be more careful, as this is an issue that needs permanent vigilance."

Jairo applauds the government's eradication campaigns and mitigation programs,

highlighting that without them Moko could become a "catastrophe from the point of view of food security for people who depend on this, and the supply of local banana and plantain markets".

One of the key issues for Jairo is the fact that vigorous grower-exporter operations are in close proximity to small banana farms with less advanced processes. He points out that these smaller growers, some with less than a hectare, can sometimes take matters into their own hand and make matters worse.

"It's mainly in the zone of Magdalena, where there are grower-exporters right next to growers for the local market, and if a producer for the local market allows the disease to grow, this will imply a greater cost for the grower-exporter.

"This is because they will firstly have to be attentive so that the disease doesn't reach their farm - they will have to apply enclosures, will have to implement disinfection systems for their tools and working team, and this will raise their costs.

"Eventually they then have the risk that if Moko appears on their farm, they will have to bear the cost of eradications."

Both industry representatives point out that the bacteria that causes Moko, *Ralstonia solanacearum*, can also affect other crops, including tomatoes, potatoes and Heliconia flowers.

Photo: ICA

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