Innovations for Managing *Moko* of Plantain in Colombia

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**Importance of plantain to Colombia**

Currently in Colombia, 450,000 hectares are cultivated under plantain, the country’s most important crop after coffee. Not only is it a food staple for Colombians, but plantain also generates 4.1% of the country’s agricultural and agroindustrial employment. Furthermore, its exports are increasing, contributing to the country’s foreign exchange.

**Moko: a significant problem**

*Moko*, a wilt caused by the bacterium *Ralstonia solanacearum*, affects about 95% of the country’s farms. Farmers consider current recommendations for managing *moko* as inefficient and demand that formalin, used to disinfect soil, be replaced with a nontoxic alternative.

**Innovations**

- The pathogen can now be detected and identified, using molecular markers.
- Our experiments have shown that French marigold (*Tagetes patula*) reduces bacterial populations in the soil by 85%. Several farmers are now planting this flower, integrating it into their production system.
- Another promising option for reducing the bacterial population is the application of Calfos, a calcium and phosphorus organic fertilizer.

* CIAT and its collaborators accelerate the production of compost of plantain floral stalks and its use as a biofungicide and biofertilizer on 100 farms in Colombia.

**Technology adoption and participatory processes**

Participatory diagnoses and technology assessments have been carried out by the “Moko Club” and at CIAT, resulting in the important achievement of farmers supporting new plant health resolutions.

**New ideas**

- Scaling up results to other countries.
- Reinvesting in research: bioinputs producers have initiated patent proceedings for the lixiviate of compost, which also controls powdery mildew in rose, sigatoka in banana and plantain and, possibly, coffee rust.
- Creating local agricultural research committees (CIALs, the Spanish acronym).
- Developing kits for the rapid detection of the *moko* bacterium on farms.
- Community production of clean and certified seed in nurseries.

In 2003 and 2004, 5000 farmers and technicians were trained at CIAT and the farm “La Helena.”

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