

International symposium on on banana: Celebrating banana organic production

# Can plantain banana production be intensified without pesticides?

P. Pugeaux, T. Lescot, R. Achard, S. Dépigny

pauline.pugeaux@cirad.fr



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#### Plantain banana : a staple food crop in

**Central America** 



- Conventional farming
- Intensive in chemical inputs
- => Around 12 t/ha

Can plantain banana production be **intensified** without pesticides? West & Central Africa



- Intercropped
- Few chemical inputs
- => Between 5 and 18 t/ha

# Methodology In Ivory coast, a private banana compagny took up the challenge

#### Know-how from dessert banana industry

Leaf

cutting

## In vitro Improved Early plantlets fallow Irrigation pruning

## Zero pesticides

Methodology

**Characterization** of 3 plantain fields side-by-side, planted with a mix of traditional varieties and fertilized with organic and mineral fertilizers

Plot 1	Plot 2	Plot 3
1580 plants/ha	1900 plants/ha	800 plants/ha
<u>Weevils</u> :	<u>Weevils</u> :	<u>Weevils</u> : pheromone
pseudostem traps	pheromone traps	traps
<u>Nematodes</u> : fallow	<u>Nematodes</u> : fallow +	<u>Nematodes</u> : fallow +
+ in vitro plantlets	in vitro plantlets	in vitro plantlets
<u>Sigatoka</u> : No	<u>Sigatoka</u> : Oil	<u>Sigatoka</u> : Oil
treatments	treatments	treatments
Weeds : manual	Weeds : manual	Weeds : manual



## Measures and monitoring



## Yields : actual yields + yields per variety

Activities and associated costs

Preliminary results

## Pests and diseases : Sigatoka



Low Sigatoka incidence on both treated and untreated plots

## Pests and diseases : Nematodes and Weevils

## Nematodes : low level 3 months

Preliminary results

after planting. Monitoring every cycle at flowering.

Weevils : low level of population

between planting and first havest.







#### Preliminary results











![](_page_13_Figure_2.jpeg)

![](_page_14_Figure_2.jpeg)

#### Preliminary results

![](_page_15_Figure_2.jpeg)

Discussion	Can <b>plantain</b> banana production be
and	interestinal with out restinades?
Perspectives	Intensified without pesticides?

### A room for yield improvement:

Optimum density for each variety to be determined; Selection to obtain more stable and productive cultivars.

## Plantain planting materials in Africa, a challenge: Quality (sanitary and agronomic); Quantities;

From the chosen variety.

#### **Improving cost-efficiency:**

Reducing production cost: fertilizers, irrigation adjustment, mechanization of weeding... Improving selling prices : off season, export...