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An holistic approach to cropping practices, a prerequisite for an agroecological diagnosis of plantain cropping systems in Guadeloupe.

Claire Forite^{1,2}, Alexandre Ogisma^{1,3,4}, Brunise Delone-Louis-Jeune^{3,5}, Gladys Loranger-Merciris^{1,3}, Harry Ozier-Lafontaine¹, Jean-Louis Diman¹



- Context: No studies and no technical support for farmers about plantain production in Guadeloupe
Plantain cropping systems are mainly improved in the Cavendish production area
Cropping system duration is reduced to 1 or 2 years long because of telluric pathogens' pressure
- Aim: Characterize plantain cropping system diversity in order to run an agroecological diagnosis
Identify the factors influencing the cropping system sustainability
- Hypothesis: Plantain cropping practices are influenced by Cavendish reference cropping system

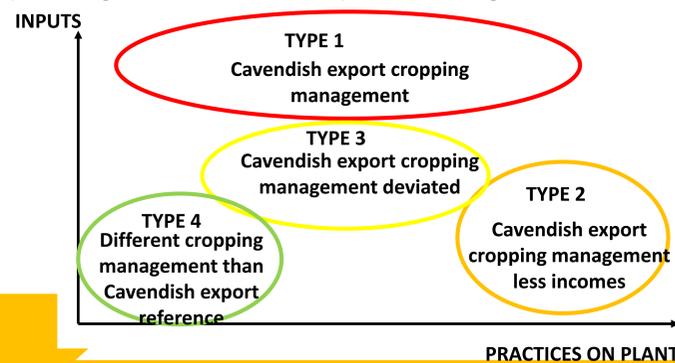
METHOD

- Survey improvement
- Plantain cropping systems typology
- Selection of 2 contrasted agroecological situations
- Plots' agroecological diagnosis



PLANTAIN CROPPING SYSTEM TYPOLOGY

Different levels of Cavendish export cropping management deviation depending on incomes and plant management

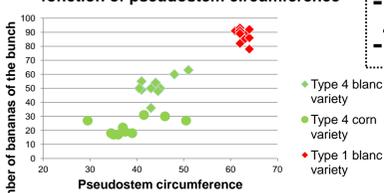


Selection of plots from type 1 vs type 4

AGROECOLOGICAL DIAGNOSIS FOR CONTRASTED SITUATIONS

-Yield measures

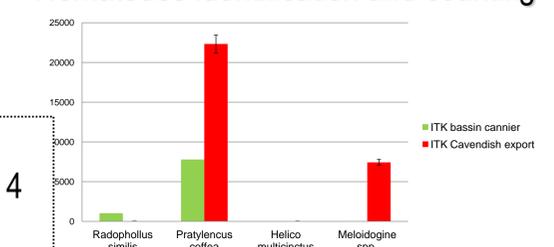
Number of bananas on the bunch
fonction of pseudostem circumference



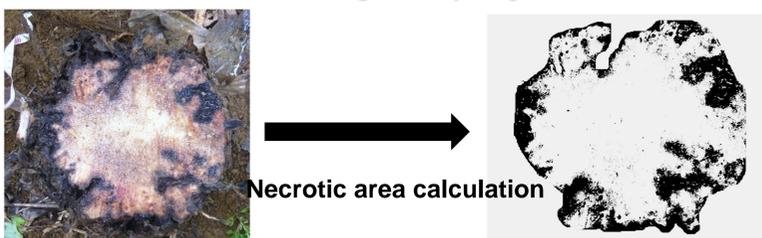
- Type 1: higher yields than type 4
- Type 1: better homogeneity of bunches in "blanc" variety
- Type 4: "Blanc" variety seems to be more productive

- Higher nematodes' infestation in type 1
- Different nematodes species combination in type 1 & 4
- Less roots' necroses in type 1

- Nematodes identification and counting

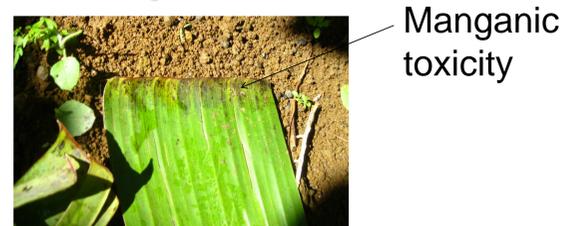


-Weevils infestation image analyzing



Necrotic area calculation

- Leaf diagnostic



Manganic toxicity

CONCLUSION

- Different cropping systems according to the production area (type 4: out of the main Cavendish production area)
- Higher yields in more intensive systems

REMAINING QUESTIONS: What are the investments and benefits for each cropping system? What is cropping systems sustainability?

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