

# From the edge to the inside of the field

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## Context

For several decades, growing bananas in the French West Indies and elsewhere in the world has almost systematically involved the use of chemical pesticides derived from fossil fuels. These intensive cropping systems have had concerning health and environmental impacts.

Today's banana farms are using several alternatives ways to herbicides in order to manage weeds. Mowing and cutting spontaneous covers are certainly the most widespread. These farms have drastically reduced their use of herbicides in order to prepare for the phasing out of active ingredients.

The aim of this study was to establish a link between farming practices and plant cover in order to optimise the floristic composition of the cover with species that can provide ecosystem services to the banana plantation.

## Method

Surveys were carried out with 10 farmers in order to obtain their feedback on the plants they were confronted with, and to carry out observations. The 'linear quadrat points' observation method was chosen for the floristic inventories.

This way, 46 plots were studied in the context of banana farms with contrasting i) life cycles, ii) planting systems, iii) previous crops and their methods of destruction, iv) intercropping and its duration.



Fig.1. Observation Line

## Results

A significant link between practices and plant cover could not be established. However, four plants were found to be significantly more present in the edges of plots, *Panicum Maximum* or Zèb Giné, *Bidens Alba* or Zégwi, *Eleusine Indica* or Pyé poul and *Echinochloa Colona* or Piti zèb a diri (Adventilles Guadeloupe et Martinique. Les adventices des Antilles françaises). Their presence at the edge of the plot greatly increased the risk of finding them inside the plot.



Fig.2. Left *Panicum Maximum*, right *Bidens Alba*

Plant	Morphology	Feedback from farmers	Advantages	Disadvantages
<i>Bidens Alba</i>	Annual upright	Interesting	Covering; melliferous	Limits worker traffic
<i>Panicum Maximum</i>	Erect perennial	Pest	Forage plant	Can be removed by uprooting

Tab.1. Presentation of plant traits

## Conclusion

The development of services species does not depend solely on the farmer's practices. It is the result of a combination of factors that are difficult to identify through a study based on observation. It is therefore important to continue this work of acquiring knowledge of the local flora in order to objectivise and optimise the technical itineraries for different sets of constraints.

It is up to each farmer to manage the edges of their plots appropriately, eliminating harmful species at an early stage and maintaining or even encouraging species of interest.