

Trapping of the coffee berry borer, *Hypothenemus hampei* (Ferrari)

The BROCAP® trap

> **STAKES AND STAKEHOLDERS**

Hypothenemus hampei, or the **coffee berry borer**, is an insect pest of African origin found in all the major coffee producing regions worldwide. As infested beans are unfit for consumption, the loss of potential earnings is considerable.

The BROCAP® trap offers an alternative, **effective, non-chemical control strategy**, when combined with good agronomic practices. The trapping technique is mainly intended for Arabica and Robusta coffee farms, with a better cost-effectiveness ratio than for chemical treatments repeated over the years, which entail a risk of pest resistance to treatments and an accumulation of toxic residues.



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COMPACT version of the BROCAP® trap made in Indonesia

> **BROCAP®, A CUSTOMIZED DESIGN**

Description

A powerful attractant and the red colour of the trap are the essence of the capture principle, made more effective by a device designed with the greatest precision:

- The bladed structure holds the attractant dispenser,
- The wide-diameter conical container provides easy access for coffee berry borers,
- The water in the capture container drowns the captured insects,
- The cover protects the trap entrance from rain and falling plant debris.



> **CIRAD IN A NUTSHELL**

CIRAD, the French Agricultural Research Centre for International Development, is an organization working for the sustainable development of tropical and Mediterranean regions.

In partnership with countries of the global South, it produces and disseminates new knowledge to assist agricultural development and contribute to the debate on the major global agriculture and food challenges in rural territories.

Adding to the results: IPM

Recommendations for practical and complementary action:

<p>Sanitary harvesting Post-harvest removal of all infested fruits, especially from branches</p>	<p>Pruning/suckering Stimulate fruiting /control coffee tree architecture</p>	<p>Trapping in risk zones Stop coffee berry borers from returning from pulping/drying areas</p>	<p>Weeding/soil clearing Facilitate agricultural operations</p>	<p>B. Bassiana treatment Target female populations during the colonization phase</p>
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- ✓ Working in 100 countries of the global South
- ✓ A staff of 1,650
- ✓ 800 engineers and researchers.

> **COMBINE EFFICIENCY, YIELD AND PROFITABILITY**

Specificity	Efficiency	Yield	ROI
97% of captured insects are coffee berry borers	Up to 10,000 captures per trap per day	Up to 12% gain in green coffee weight	Advantageous cost-effectiveness ratio

The road to
IPM

> RESEARCH AND ACHIEVEMENTS

BROCAP® is a patented device initially developed by the CIRAD Pests and Diseases research unit as part of CIRAD/PROCAFE cooperation. The trap is currently manufactured in Indonesia and is distributed by Indo CafCo (a subsidiary of the ECOM group). It has undergone continual structural and functional improvements and, after long being used exclusively to protect Arabica coffee, it can now be used on Robusta coffee.

Development of the device

Improvement of the attractant

Organizing “Triple Action IPM”

Adaptation to different agroclimatic zones

Creation of the COMPACT and MINI versions



Trap installed in a plantation



BROCAP® COMPACT packaging (25 traps per box)



Boxes of traps stored before shipment

Contacts

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> USING THE TRAP

Installation: 25 traps/ha depending on local agroclimatic conditions, hung in the branches of coffee trees around 1.2 m from the ground. Their immediate surroundings should remain unobstructed to facilitate access for coffee berry borers.

Trapping duration: to be adapted to fruit production patterns, which are themselves dependent on the climate. In a tropical zone, count 4 months, after the first harvesting round. In an equatorial zone, more than 10 months, after the second main annual harvest.

1 refill = 2 months' diffusion.

Maintenance: At regular intervals, captures should be checked, the containers emptied, cleaned and refilled with clean water. Then, apart from checking the attractant level, no further intervention is needed.