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## BOOK OF ABSTRACTS


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## Agro-climatic constraints to integrated Coffee Berry Borer Management

Dufour Bernard P.[1] (bernard.dufour@cirad.fr), Ribeyre Fabienne[1], Kerana I Wayan[2]

[1] *Cirad UPR Bioagresseurs, Montpellier, France;* [2] *PT IndoCafCo ECOM group, Medan, Sumatera Utara, Indonesia*

**RATIONALE**

Because it is effective, flexible and environmentally friendly, Integrated Pest Management (IPM) against the coffee berry borer (CBB) is a method that tends to fit sustainably into the agronomic practices of *arabica* coffee producers. However, IPM must adapt to local agro- climatic conditions to be effective. Thus, we compared this method in two contrasting situations, one in Central America with a tropical climate and the other in North Sumatra with an equatorial influence.

**METHODS**

We adapted the main IPM components, i.e. CBB trapping on plantations and near post- harvesting areas, sanitation harvesting, and pruning and/or plot maintenance operations, according to CBB dynamics. These dynamics depend on the phenology of the *arabica* coffee tree, which is characterized by limited duration of fruit production in Central America and almost permanent fruiting in North Sumatra.

**RESULTS**

In Central America, trapping used 18 Brocap© traps/ha for four months during the post-harvest period (1). When trapping was combined with sanitation harvesting applied to the branches, infestations were reduced by more than 70% compared with control plots. Adding pruning and maintenance of the plots, infestations decreased by more than 90% (2). In North Sumatra, trapping with 25 Brocap© traps/ha for ten months per year reduced infestation levels by 50% on average in plots affected by CBB. When combined with sanitation harvesting from the ground and on the branches, less than three months after the two main flowering periods, the infestation rate dropped to less than 10%. In this area, pruning had no particular effect on infestations, but it helped to double production the following year (3). In addition, given the dispersion of pulping and drying areas in this region, setting traps near these areas allowed to capture emerging CBBs in order to prevent their return to plots.

**CONCLUSIONS & PERSPECTIVES**

The control strategies proposed for Central America and North Sumatra have been developed to optimize the use of the different IPM component with a concern for efficiency, environmental friendliness and economy of means. However, they could be reinforced by other measures such as spraying with *Beauveria bassiana* spores at appropriate times and monitoring infestation levels. In other agro-climatic sites dedicated to coffee cultivation, such as those in Africa, other strategies can be imagined and exploit the «parasitoid» component naturally present on this continent.

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