

Validation of Coffee Berry Borer (CBB) Trapping with the Brocap[®] Trap

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SUMMARY

The purpose of this two years' work was to validate CBB trapping, after a long development and industrial manufacturing phase to produce a commercial trap model patented and registered under the BROCAP[®] brand. The main aims were to evaluate the capture potential of the BROCAP[®] trap in the field, demonstrate its effectiveness during actual trapping campaigns and determine its impact on coffee production. In this context, the objective was to identify any weaknesses of the trap, assess how future users would accept this new tool and estimate costs.

On the fifteen coffee farms selected during the first year, which were located in the main three coffee areas in El Salvador, two 4.2 ha plots were marked out per farm, one with trapping the other without. The total number of traps per farm was 12 per 0.7 ha, i.e. a total of 72. They were installed for the start of CBB migration from residual fruits remaining after the harvest and were only removed once migration was complete. Prior to trapping, infected berries were sampled in all the plots to determine live CBB population levels. CBB catches were measured by a volumetric method. Population levels were then assessed after trapping, or more precisely after the colonization of new fruits, and then at the beginning of the harvest. The same procedure was followed in the second year on a sample of four farms only.

The results showed that the BROCAP[®] trap was able to catch large numbers of CBB. On one farm, 7 million females were caught, with an average of 76 000 per trap in 20 days. In the first year, on the 8 plots where the protocol was strictly applied, the infestation level fell visibly when compared to the control plots, with a reduction of 84.6% in one plot. In the second year, the greatest reduction reached 87.1%. The plots with trapping also displayed higher green coffee yields than the control plots, with a weight gain varying from 2.9% to 16.3%. With the experience of this CBB control programme, some suggestions were made to improve the BROCAP[®] trap, adjust it to true field conditions and ensure its commercial success.