

2015 SHAC CBB Grant Sampling and Monitoring Report

Farmer Name: _____ Date of sampling: _____

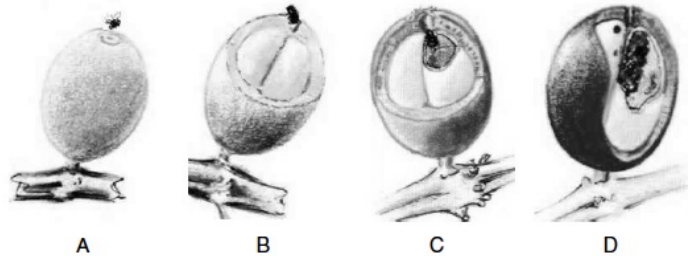
TMK or Field Name _____ Phone# _____

Date of last Beauveria spray: _____ Other products sprayed? _____

Tree #	Column A # Green Cherries	Column B # Cherries Infested	#Beauveria Noted
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
Total	<i>A</i>	<i>B</i>	

infestation percentage = (Total Column B) ÷ (Total Column A) x 100 = %

This is your infestation rate on your farm



AB / CD Green Bean Inspection – pick 3 infested cherry from each tree to cut open for CBB position ↑

of live CBB in position AB =

of dead CBB in AB or CD =

of live CBB in position CD =

of berries with no live or dead CBB =

NOTE: The AB/CD numbers should total to the number of berries cut (36).

Comments/Observations:

Thirty Trees Method (only 12 trees required for SHAC grant)

By Luis F. Aristizábal

It is important to understand what CBB is doing on your farm. This simple method will show you total infestation levels, but more importantly, it will show whether the beetle is vulnerable to being killed by spray. Begin sampling about 60 days after your initial flowering and continue monthly or as needed through harvest. Depending on your farm size and topography, a single lot of 30 trees might be sufficient, or you may need to subdivide into smaller lots (for example shaded areas versus sun).

Step One - Monitoring the CBB Infestation

- 1- Select the coffee farm or section and draw a map so you can keep track of hot spots.
- 2- Select a corner of the section and choose a tree randomly.
- 3- Select a single lateral coffee branch in the middle of the tree.
 - a. **Count the total number of green cherries (over 60 days old). COLUMN A**
 - b. **Count the number of green cherries infested by CBB. COLUMN B**
 - c. **Note how many CBB show white *Beauveria* fungus (if any).**
 - d. **Pick about 3 green cherries infested by CBB (for Step Two below).**
- 4- Record the information on the attached form as tree # 1.
- 5- Then move to the next tree. (move in zig –zag about 15 to 20 yards and select tree # 2).
- 6- Repeat steps 3a-3d in the tree #2.
- 7- Move on and repeat those steps until farm is complete.

Once complete, take the information collected and calculate the percentage of infestation by CBB.

% infestation = Total green berries infested / Total green berries x 100

Example: In the coffee trees sampled we have the following information:

Total green berries = 1500

Total green berries infested by CBB = 40

% infestation = $40 \div 1500 \times 100 = 2.66\%$

Step Two - Positions of CBB in cherries (AB and CD - used to determine when to spray)

After finishing the count above, use the picked cherries to determine beetle position. Each single cherry has to be cut open in order to determine its position (AB or CD). Be careful not to kill the beetle while opening the cherry as whether the beetle is live or dead is important.

In AB position the CBB is entering the fruit but the endosperm (coffee seed) has not been damaged. You can see the back part of the CBB body entering to the fruit. In this position the CBB is highly vulnerable to insecticides. ***A high percentage of CBB alive in AB, means spray within a week. A high percentage of dead in AB means your spray is effective.***

In CD position, the CBB is safe. The endosperm (coffee seed) has been damaged by the female and by its offspring (larvae). Neither *Beauveria* nor chemical insecticides can effectively control CBB in this position. In position CD the beetle may only be controlled by picking of ripe cherry.

Decision Making

Timing on when to spray may vary greatly from farm to farm. *However, it is better to contain early in the season than fight a larger infestation later.* Once CBB moves into CD, it is very difficult to kill. If you only sell cherry, maintaining under 20% could earn you \$1000+ per acre in additional income. Not to mention the added weight of undamaged cherry. This would offset the price of multiple sprays, including labor.