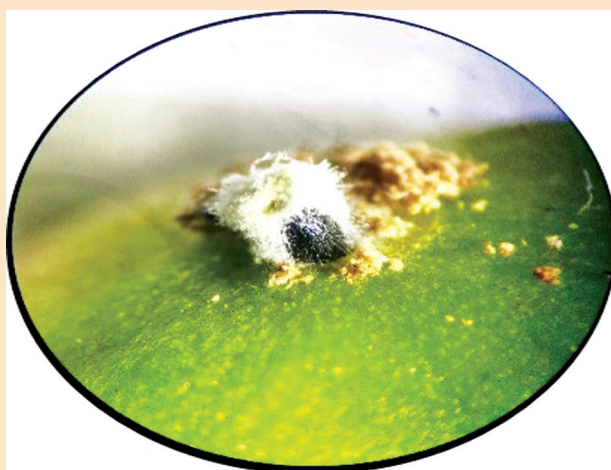


1-2 minutes. Heavily infested berries may be destroyed by burning, or burying in the soil to a depth of at least 20 inches.

- Maintain thin shade and train the plant regularly so that harvest and plant protection operations are efficient
- Spray *Beauveria bassiana* with 10^7 spores/ml, i.e., 1 kg of rice culture (approximately 40 g of spore) in 200 L water with 100 ml APSA 80 when borers are at navel region
- Install Broca traps in the field to monitor the incidence @10 traps per acre and also around the drying yard during harvest. The traps should be used at the time of sprinkler irrigation in Robusta
- Spray Phenthoate 50EC or Fipronil 5SC @ 300 ml in 200 L of water



B. bassiana on CBB

along with 200 ml of wetting agent, when borers are at the tip of the berry

- While processing coffee at the estate level, extreme care should be taken to dry the coffee to the prescribed moisture specifications (Parchment -10% and Cherry -11%) so that the stages inside, if any, do not survive.
- Avoid transport of infested coffee to non-infested areas. Dry the infested coffee properly, then transport using clean gunny bags



Broca trap

- Tree coffee serves as a potential inoculum during off-season. Don't leave the tree coffee un-harvested. If harvesting is not possible, stump them

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MANAGEMENT OF COFFEE BERRY BORER



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The coffee berry borer is the most serious pest of coffee all over the world. It has caused considerable losses in various Central African countries where it is endemic and in countries to which it has been introduced. This pest was first noticed in India during February, 1990 on a few plantations in The Nilgiris region of Tamil Nadu. It has now spread to almost all the coffee growing areas in Kerala, Karnataka and Tamil Nadu.

Life Cycle

The adult coffee berry borer is a black beetle, about 1.5 mm long. It bores into young as well as ripe berries generally through the navel (tip) region. Mating usually takes place inside the berries and the female is capable of laying eggs in 3-4 days after emergence. Around 50 eggs are laid on average, in the tunnel within the mature bean. The eggs hatch in 5-9 days.



Initial tunnelling of CBB

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Complete development from egg to adult takes place in about thirty days. The fertilized female leaves the parent tunnel and bores into a fresh fruit for oviposition. The ratio of female to male is about 10:1. The male is incapable of flight and doesn't leave the berry.

Symptoms and Damage

The infested berry can be easily identified by the presence of small holes, generally one and sometimes two or three, in the navel region. The grubs feed on the beans, making small tunnels. The berry borer attacks all the coffee cultivars. Though the beetle doesn't breed in tender berries, some of the affected berries may fall due to injury. In case of severe infestation, 30-80% of the fruits may be attacked, resulting in heavy crop loss. Generally, only one of the beans in a berry is affected, though damage to both the beans is observed in case of severe infestation. Under favourable conditions and when coffee berries are present throughout the year, the pest can maintain an uninterrupted series of generations.

In order to break the continuity of the life cycle, it is essential to maintain a period, (the longer the better) during which there are no suitable berries for the development of the pest on the estate. Special care needs to be taken in situations where arabica is inter-planted in Robusta field. As arabica fruits mature earlier, the berry

borer completes a few generations on Arabica and then very easily moves over to Robusta. Hence, the concept of breaking the life cycle is not fully met.

Management

The population of this pest could be effectively maintained at very low levels by adopting an integrated management (IPM) program

- Timely and thorough harvest to reduce pest build-up. This is possible by collecting gleanings and leftover berries, including off-season crops, on the plants scrupulously



Leftover berries with CBB infestation

- At the time of harvest, spread picking mats under the plants to minimize the gleanings
- Infested fruits should be processed after dipping in boiling water for

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