

The Reduced Infestation of Leaf-miner in Mokka Variety of Coffee and the Implication on its Origin and Breeding

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SUMMARY

Early investigations on the rate of leaf miner (*Leucoptera coffeella*) infestation in a wide collection of *Coffea arabica* of IAC under field conditions in Brazil have indicated reduced attack in the leaves of the botanical variety mokka and its derived Ibairi cultivar. Further studies in the lab with no-choice tests of leaf discs showed that the average area damaged by one caterpillar in cv. Ibairi is similar to the observed in other standard *C. arabica* cultivars. From a cross of Ibairi (*mo mo*) with Catuai (*Mo Mo*), leaves representing 10 F₃ progenies randomly chosen *mo mo* and 10 *Mo Mo* were tested for oviposition in confinement conditions in the lab. The experiment was performed in two levels of infestation. Oviposition occurred 2,2 times more intensely ($F = 11,48$; $p = 0,008$) in the normal *Mo Mo* plants under high infestation pressure (107,2 eggs/leaf) and 1,8 times ($F = 9,96$; $p = 0,012$) under low infestation pressure (14,4 eggs/leaf). The results indicate that the low rates of infestation of Ibairi cultivar is at least partially explained by differential preference for oviposition of the adult insect with reduced egg laying on its leaves. Although plants with such resistance stand out in mixed selections plots, their exploitation in breeding programs is obviously questionable in present homogenous cultivar based cropping. The uniqueness of such resistance of mokka in *C. arabica*, its fine beverage profile coupled with associated phenotypes that occasionally dissociate in segregant generations drive the speculation on mokka genotype be conditioned by a gene block introgressed from *C. eugenioides*.