

Preferential Oviposition of Leaf-miner for Erecta Coffee Genotype

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SUMMARY

The dominant mutation erecta (*Er Er*) of *Coffea arabica* affects the angle of plagiotropic fruiting branches changing them from the normal 66° to 26° and consequently determining an upright growth and a more compact plant habit. Breeding programs have tried to exploit this variation transferring *Er* allele to commercial lines aiming at the reduction of the canopy projection area of plants thus allowing for closer spacings. On the course of the investigations, some good yielding segregants in the field apparently presented higher infestation of leaf-miner (*Leucoptera coffeella*). In the present experiment four individuals representing homozygous F₃ *Er Er* progenies were compared in randomized block design to four homozygous *er er* individuals from different F₂ individuals of the same original F₁ plant *Er er*. Eighteen-months old plants were caged and subjected overnight to oviposition of insects. Eggs laid in the adaxial surfaces of the leaves were then recorded for all leaves of the plants. A total of 1486 eggs were recorded in 82 leaves (18,12 eggs/leaf) of *Er Er* genotypes and 867 in 80 leaves (10,84 eggs/leaf) of normal *er er* genotypes. Average oviposition in erecta plants was higher in both ortotropic and plagiotropic branch leaves although statistically significant only for the latter. Oviposition was higher in the second and third leaf pairs of plagiotropic branches and on the leaves of the middle part of the ortotropic branches. The preference of *L. coffeella* for *Er Er* genotypes could be determined either by a more attractive position of the leaves for oviposition, by linkage of *Er* to an unknown attractive factor or by a pleiotropic effect of the *Er* allele. Further experiments are under way in order to ascertain the underlying cause of the preference of leaf-miner adults for oviposition in erecta plants.