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Resistance of coffee genotypes do dieback, caused by *Boeremia coffea*

Flávia R. A. Patricio[1] (flavia.patricio@sp.gov.br), Kamila E. de Moura[1,4], Karina E. de Moura[1,3], Leticia Z. Ricci[1,5], Masako T. Braghini[2,3]
[1]Instituto Biológico, Campinas, SP, Brazil, [2]Instituto Agronômico, Campinas, SP, Brazil, [3] Consórcio Pesquisa Café, DF, Brazil, [4]Fundação de Apoio à Pesquisa Agrícola, Campinas, SP, Brazil, PIBIC- CNPq, DF, Brazil

INSTITUTO BIOLÓGICO

33900

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Consórcio Pesquisa Café

Introduction

Dieback, caused by *Boeremia coffea*, previously classified as *Phoma tarda* in Brazil, and *Phoma costarricencis*, in Colombia and Central America, is a relevant disease in high altitude areas of these regions.

In this study we evaluated the reaction to dieback of genotypes carrying the SH3 factor, which confers resistance to rust, as well as genotypes derived from the Timor Hybrid and C. canephora genotypes from the Instituto Agronômico breeding program.

Materials/Methods

The seedlings, containing 4 to 5 pairs of true leaves, were inoculated with the isolateIBLF 1199.
The leaves of the two upper pairs were inoculated with four mycelium disks per leaf.
The seedlings were kept at 20°C in high humidity. Nine days after inoculation, the severity of the disease was evaluated by calculating the leaf area affected by phoma spot, using the Pliman program, in the R platform.

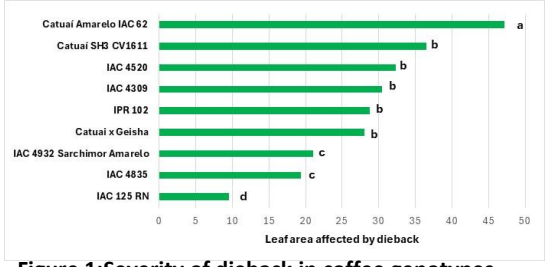

Figure 1:Severity of dieback in coffee genotypes

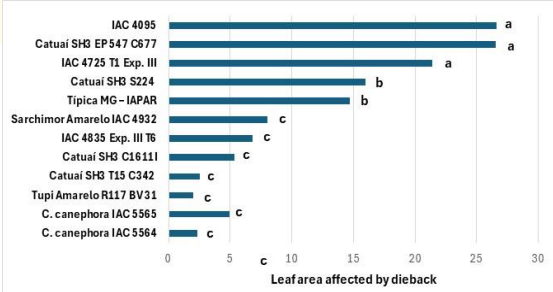

Figure 2: Severity of dieback in *C. arabica and C. canephora* genotypes

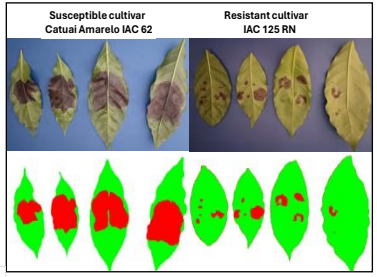

Figure 3: Leaves from a resistant and suceptible cultivar

Results/Discussion

Seedlings of genotypes resistant to coffee leaf rust (*Hemileia vastatrix)*, such as Catuai SH_3 T15 C342, and Catuai SH_3 C1611P40 C39 were moderately resistant to dieback while the genotypes Catuai SH_3 1611 and Catuaí SH3 EP547C677 were moderately susceptible o dieback.
The cultivars IAC125 RN, Tupi IAC 1669-33, and the pre-cultivars IAC 4722, IAC 5555, Tupi Amarelo R117 BV 31, IAC 4835 Exp. III T6, and Sarchimor Amarelo IAC 4932 and two introductions *C. canephora* IAC 5564 and *C. canephora* IAC 5565 were moderately resistant to dieback.
The cultivar Catuai Amarelo IAC 62 and the pre-cultivar IAC 4095 were very susceptible to dieback.

Conclusion/Perspectives

This study showed that genotypes resistant to CLR containing the SH_3 factor, from C. liberica (BA 10), may be moderately resistant or susceptible to dieback. The genotypes from crosses of with Sarchimor (Villa Sarchi x Timor Hybrid CIFC 832/2), such as IAC125 RN, Tupi Amarelo R117 BV 31, IAC 4722, IAC 5555, and IAC 4835 Exp. III T6, which are also resistant to CLR, behaved as moderately resistant to dieback and could be indicated to be planted in high altitude areas. Coffee cultivation at higher altitudes in Brazil is growing due to the high quality of the beverage and climate change. Therefore, the selection of resistant genotypes to dieback is becoming increasingly important

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